Medical Library
MAY 27 1942

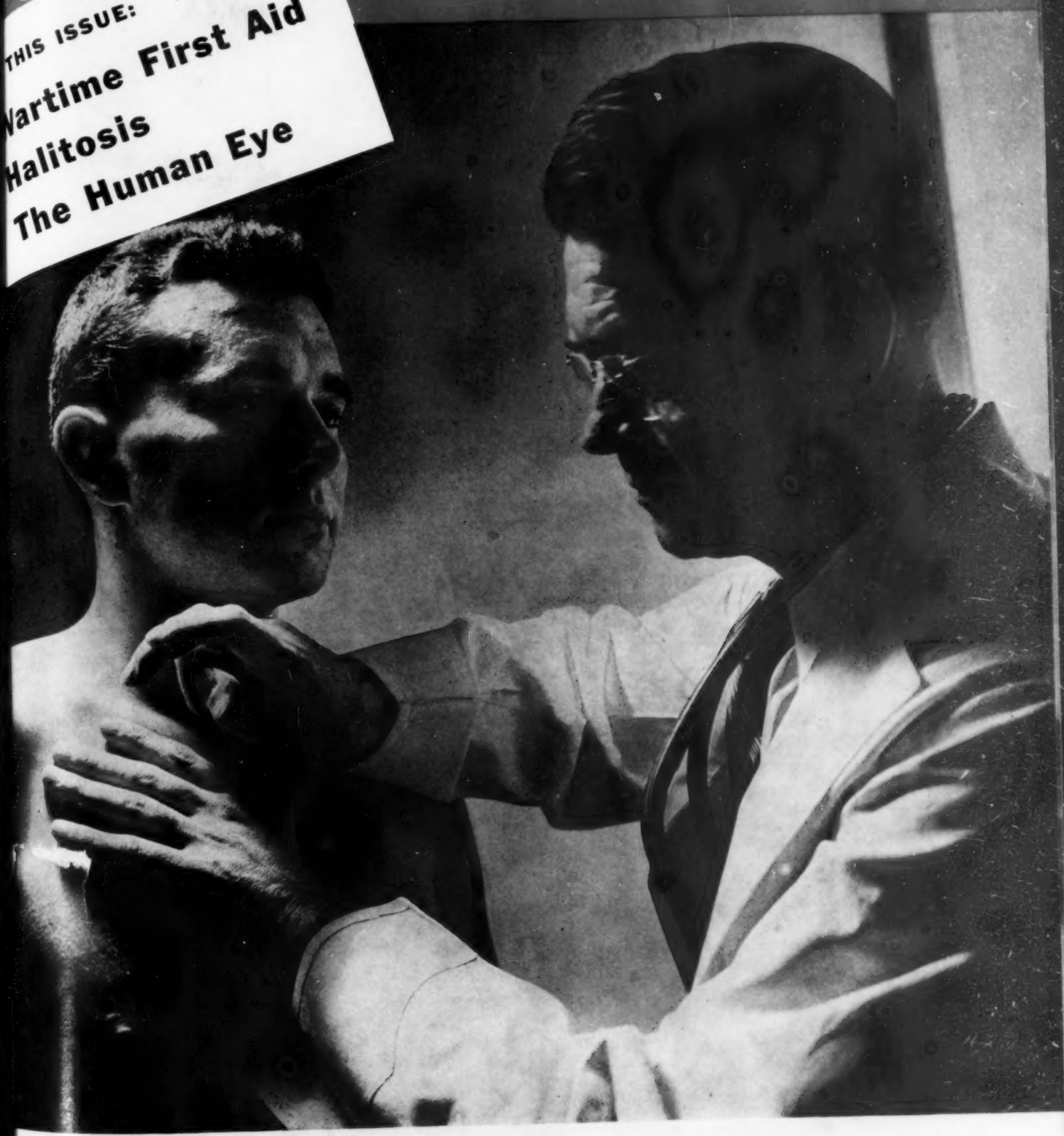
HYGEIA

THIS ISSUE:

Wartime First Aid

Halitosis

The Human Eye



The Health Magazine of the American Medical Association

JUNE • 1942 • 25c

"WE'RE IN THE ARMY OF CONSERVATION NOW!"

3 simple ways

TO AVOID WASTING LIGHT

cheer up the home . . . and guard eyesight

You risk eyestrain today more than ever. For in most American homes, people are now using their eyes more . . . studying, sewing, reading.

Below, you'll find some practical, easy-to-use suggestions . . . that will help reduce this burden on eyes . . . guard them from strain and make the home more cheerful . . . with present lamps and light bulbs.

❶ Keep lamps clean . . . dustfree

Reflector bowls and lamp bulbs gather more dust than you think. The dust collected on them in from one to three months can rob you of much of the light your eyes need. *Dusting them with a damp rag, or washing will give you from 25 to 30% more light.*

❷ If your lamps have dark shades

or shades now *turned yellow inside,* you are losing light that your eyes need for easier seeing, less eyestrain. You may be losing as much as 50%! *Clean them regularly; or if they're too bad, replace them with fresh shades and you'll get a lot more light.* (Even light-colored silk shades will give you more light if brushed weekly.)

❸ Place lamps to make light more useful

Put them where they give eyes most help. Often, two or more of the family can use the same lamp when furniture is properly arranged. (One suggestion is shown above.) And don't get too far away from the lamp; a difference of twelve inches can cut your light as much as 50%.

When you buy a new bulb . . . buy carefully

Wrong-size bulbs may mean eyestrain. Make sure the new G-E MAZDA lamps you get are the *right* size to guard your eyes from strain. Eyesight and electricity are both vital in today's emergency. Conserve them both. When you read, sew or study, be sure you have enough light to protect your eyes; *but don't waste it—don't leave unnecessary lights burning!*

G-E MAZDA LAMPS

GENERAL ELECTRIC

MAZDA—*not the name of a thing, but the mark of a research service.*

he Fairest in the Land

Don't look now!
There's the Wicked Queen!

The Handsome Prince

The animals lead Snow White to the Dwarfs

The Dwarfs discover Snow White

Snow White makes the Dwarfs wash

The Wicked Queen finds Snow White

The Dwarfs to the rescue

Snow White eats the Poisoned Apple

Snow White sleeps

The Prince awakens Snow White with a kiss

And they lived happily ever after

A Young Lady's Reactions to "Snow White and the Seven Dwarfs"

COPYRIGHT 1942, MEAD JOHNSON & CO.

FORECAST

During the last war, men entering the military service were not required to pass psychiatric examinations. As a result, thousands of men are on pension lists who were able to carry on normally and efficiently in civil life but who "cracked up" mentally under the stress of military service. It is the object of present Army psychiatric examinations to weed out these "borderline cases," to keep as useful citizens those who could not stand the emotional and mental strain of combat service. Lt. Col. Amos R. Koontz explains how the Army is using psychiatric examinations to economize on manpower in "Psychiatric Rejections in Selective Service," which will appear in HYGEIA for July.

Medical progress has made it possible to control the diabetic patient to the extent that he can be regarded to a marked degree as healthy. Thanks to insulin and other modern care the diabetic of today can be "reconditioned" and returned to work; with little effort, he can live the normal span of life and be a useful citizen. He should have no fear of revealing his condition to his employer.

An interesting story of diabetic patients who are doing important, productive work in the nation's war effort is told by Anthony Sindoni Jr., M.D., in "How the Diabetic Can Help Uncle Sam in War." Coming in HYGEIA.

Careless use of the terms "vaccine" and "serum" has created a widespread public misconception that they are synonymous; even newspaper writers and radio announcers confuse the terms and speak of "typhoid serum." Yet it's just as wrong to use these words interchangeably as it would be to put gasoline in the radiator and try to run your car on water, according to Leland W. Parr, Ph.D., who explains the difference and tells how each is developed and used in a lively "biology lesson" for HYGEIA *readers.*

What with the shortage of tires, gasoline and golf balls—and every one planning the vacation budget with a view to including as much as possible of health and recreation without slowing up in the purchase of defense bonds, the country's lakes and beaches are going to be more popular than ever before! There's no priority on fresh or salt water, and there's no sport that's more refreshing and beneficial than swimming—if it's indulged sensibly and with proper precautions.

A few simple rules for safe swimming, together with instructions for the protection of sensitive ears, noses and sinuses, are set forth by Lewis J. Silvers, M.D., in "Swimming Safely." July HYGEIA.

HYGEIA

THE HEALTH MAGAZINE

535 N. DEARBORN ST., CHICAGO, ILL.

Published and copyrighted, 1942, by the American Medical Association. Edited by Morris Fishbein, M.D.

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HYGEIA, The Health Magazine, is published monthly by the American Medical Association, 535 N. Dearborn Street, Chicago, Ill. Yearly subscription price, $2.50; for foreign postage add 75 cents. Single copies, 25 cents. Volume 20, Number 6. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103 Act of October 3, 1917, authorized March 21, 1923. Printed in U. S. A.

Unsolicited manuscripts will be considered by the Editor but must be accompanied by a stamped self addressed envelop to insure return if rejected. Manuscripts should be typewritten, double-spaced, and the original, not the carbon copy submitted. All rights reserved.

What can a man believe in?

It didn't seem too much to ask for.

A doll like Mary's.

Help in passing your arithmetic test.

A clear day for the Sunday picnic.

Maybe none of those things came true. Maybe it seemed as though your pleas fell upon deaf ears. Yet, deep down inside, you felt better, stronger.

You know why, now. Even if your prayers weren't answered, you had found something. It was bigger than you. It gave you hope and courage.

Something men call faith. Something to believe in, always.

Every Squibb product—whether made especially for prescription by the medical profession or for proper everyday use in the home—bears an individual control number. It means that each detail in the product's making has been checked against Squibb's high standards and recorded under that number at the Squibb Laboratories. Look for the name and control number when you buy. You can believe in Squibb.

E·R·SQUIBB & SONS

Manufacturing Chemists to the Medical Profession Since 1858

THE PRICELESS INGREDIENT OF EVERY PRODUCT IS THE HONOR AND INTEGRITY OF ITS MAKER

Copr. 1942 by E. R. Squibb & Sons

"The Adcomber"

looks at Hygeia ads

In the golden, tangy, sun-saturated juices of Hawaiian pineapple, nutritionists have found those important vitamins B_1 and C. . . . You'll find the recommended daily requirements of this vitamin-rich food in the authentic chart, page 435.

—◊—

Does playing chef to Baby absorb an undue amount of your time and attention? You can cut down the time and improve His Majesty's menus by using a Foley Strainer. It's *quick*. It's *easy*. And the cost? . . . $1.00 only! Page 438.

—◊—

Sounds unbelievable on paper, but feels truly convincing by this easy 2-minute test—*the marvelous difference* between the constricting pressure of an ordinary corset and the natural figure support of a Spirella. Just make that 2-minute test yourself . . . page 451.

—◊—

One of those "personal victories" so important to your job and your daily living is Dependable Eyesight. And such common disturbances can indicate *faulty* eyesight! . . . page 452. *Better check up!*

—◊—

Busy People trust only proven tools. . . . Reason enough why Mrs. Henry J. Blanchette, mother of triplets, always depends on Lux—NEW QUICK LUX! Just ask any mother of triplets how she keeps those multiple wardrobes clean . . . or read what Mrs. Blanchette says, page 465.

—◊—

"Mary knew all the answers!" . . . why Tampax internal sanitary protection beats 1890 methods . . . or 1900 . . . or 1930, for that matter. If you haven't discovered the reasons FIRST-HAND, better read Louise's very natural questions and Mary's helpful answers, page 449.

—◊—

To get more light from the same current . . . to cheer up dusky corners . . . to guard irreplaceable eyesight—do these three things:

1—See inside front cover.

2—As directed, inside front cover.

3—Be sure to follow this one—inside front cover.

—◊—

SWEET AND NUTRITIOUS! How sweet? . . . "2 to 2½ teaspoons of sugar to ½ banana"! How nutritious? . . . 5 precious vitamins and 11 minerals to every brown-flecked banana!—as per chart, page 407. Two ideas for delicious "jiffy dishes" too . . . same page.

—◊—

SUN BATHS FOR LITTLE FOLKS, WITH WHOLESOME SUNSHINE TO TAN THEM, SUTRA SUN CREAM TO GUARD THEIR DELICATE SKINS AGAINST HARMFUL RAYS. . . . There's a prescription FOR SUMMER-TIME FUN AND STORED-UP HEALTH. IF YOU HAVEN'T SEEN SUTRA IN YOUR FAVORITE DRUG STORE, SEE PAGE 409.

THE ADCOMBER

Who's Who IN HYGEIA

JOHN OLIVER McREYNOLDS, M.D., whose article, "The Human Eye," page 422, is the second in a series appearing in HYGEIA on "Our Eyes and How to Save Them," is a native of Kentucky. He attended the Transylvania University at Lexington, Ky., and after receiving the B.S. and M.S. degrees there he became a teacher of mathematics in the Dallas, Texas, High School. After a year of teaching, he entered the Bellevue Hospital Medical College in New York City and later completed his medical training at the University of Maryland, where he was graduated in 1891. He served an internship at the Baltimore City Hospital and went on to study at eye and ear clinics in London, Paris, Berlin and Vienna, returning to practice ophthalmology in Dallas.

Dr. McReynolds has served as president of the Dallas County Medical Association, president of the Texas State Medical Association and vice president of the American Medical Association. He has been professor of ophthalmology at the medical schools of Southern Methodist University and Southwestern University and chairman of the section on ophthalmology of the American Medical Association. During the last war, Dr. McReynolds was a Major in the Medical Corps, United States Army, directing the Aviation Research Laboratories at Camp Dick. At the present time, he is a member of the staffs of the St. Paul's, Methodist and Crippled Children's hospitals of Dallas, consulting surgeon for several railroads in the Southwest, a member of the board of governors of the American College of Surgeons, a director of the Dallas Chamber of Commerce and a Colonel in the Officers' Reserve Corps, United States Army.

Dr. McReynolds says of his own career: "If I have contributed anything, it lies between the covers of books interesting chiefly to my colleagues in the medical profession."

Readers of his articles in HYGEIA will probably disagree.

GREER WILLIAMS became a professional newspaperman at the age of 17 and is still in newspaper work today at 32, having been successively sportswriter for the Detroit *Free Press*, science writer for the Chicago *Tribune*, information expert for the United States Public Health Service and science editor of the new Chicago *Sun*—a progression which he describes as "exchanging the *Athletic Guide* for *The Journal* of the American Medical Association as a source of data." This career was interrupted briefly in 1940 when he succumbed to the occupational disease of newspapermen and retired to the Virginia hills to write a novel.

Mr. Williams began contributing to magazines in 1938 with the *New Yorker* and *Reader's Digest*, and since that time a number of his popular articles on medical subjects have been published. "How to Choose Your Doctor," on page 430, reflects the judgment resulting from years of association with scientists and physicians.

LOIS STICE is a member of the staff of the Medical Division, Office of Civilian Defense in Washington, D. C., headquarters for the vast planning and organization program which is rapidly preparing the nation to care for civilian victims of possible wartime disaster. Thus "Wartime First Aid," on page 412, is straight from headquarters.

Before joining the OCD staff, Miss Stice had been for several years News Editor of *The Journal* of the American Medical Association and publicity director for the American Academy of Ophthalmology and

(Continued on page 406)

"I THINK I'm about the average mother of an only child. I'm pretty proud of her, of course, and I'm sensible enough to recognize her shortcomings — one of which I *knew* wasn't stupidity.

"Yet, when she reached 3rd grade, there was her report card — 'D' in reading, 'D' in arithmetic. The first time it happened I blamed it on lack of concentration, but after two months of the same low grades, I went to see her teacher with fire in my eye!

"It was then I learned that *I* had been the dull one all the time. 'Have you ever had Betty's eyes examined?' her teacher asked. 'Poor vision may have a great deal to do with her low marks. My advice to you is to check and see.'

"And check up I did . . . at once. Today Betty is like a new youngster. Her marks are up where they should be and she gets a lot more fun out of everything she does. Poor kid, she never realized how much defective vision had been handicapping her."

What about *your* children? Have you given thought to their eyes? Learn the truth by having their eyes examined, it's the only way you can be sure!

WHAT ARE SOFT-LITE LENSES?

Soft-Lite Lenses are scientifically designed to control the amount of light which reaches the eye, without altering color or visual sharpness. They neutralize glare, absorb excess light, protect eyes against eye-strain and fatigue. Soft-Lite Lenses are flesh-toned and are ground to individual prescriptions. They are prescribed for children as well as adults.

There is only one Soft-Lite — identified by this certificate.

Soft-Lite Lenses

MADE BY BAUSCH & LOMB SOLELY FOR THE SOFT-LITE LENS COMPANY, SQUIBB BUILDING, NEW YORK

. . . for the flag you honor!

V . . for the man you're cheering!

V . . for the Vital Things entrusted to women! Things that build morale—for fighting men and home folks! Things like fresh, wholesome complexions, free of cosmetic irritation and clogged, ugly pores.

You can help keep your own skin clear and winsome by using Marcelle hypo-allergenic Cosmetics. From cleansing cold cream to lipstick, they're free of known irritants. Hundreds of doctors recognize and prescribe them. Leading medical journals advertise them. Well-groomed women use them—coast-to-coast.

For only a dime you can get into that spic-span, march-time, all-out-for-action spirit . . . the spirit that comes from making a fresh start with a complete set of wholesome cosmetics.

Ask for your set today—enough of five daily necessities to last a long week. Just send one dime and your name on the coupon below for samples of: Marcelle hypo-allergenic Cleansing Cold Cream, Skin Lubricating Cream, Face Powder, Rouge and Lipstick.

Done? . . . Well done! IT IS IMPORTANT!

Marcelle hypo-allergenic COSMETICS

1741 N. Western Ave., Chicago, Ill.

Please send me the five sample beauty aids. I enclose 10c.

Blonde..... Brunette..... Auburn.....

NAME.....H-6-42

ADDRESS.....

Otolaryngology, and, earlier, editorial assistant on HYGEIA and reporter for the Louisville *Times* and the Boston *Globe*.

Formerly science editor of the Cleveland *News*, feature writer for the Associated Press and bureau manager in Cleveland for the United Press, RAYMOND A. BRUNER is now a free lance writer of magazine and newspaper articles on scientific subjects. Twenty years' experience covering scientific meetings and interviewing leaders of scientific thought for newspapers resulted in his ambition to inspire the public to a greater interest in themselves and awareness of the world about them. HYGEIA readers will find "Hand Hazards!" on page 424, an informative, instructive example.

LETTERS FROM *Readers*

Postmortems

To the Editor:

As a hospital administrator I am interested in doing everything possible to educate the public in the importance of autopsies. In the small hospitals, especially the ones located in rural areas, it is extremely difficult to secure permission from the nearest of kin. The article and illustration appearing in April HYGEIA would I believe go a long way in overcoming the ideas of such a procedure that the general public has.

HELEN BRANHAM

North Mississippi Community Hospital
Tupelo, Miss.

To the Editor:

. . . the subject is well covered. People do have false ideas about posts; the article should go far to convince many a skeptic . . . I agree heartily with its conclusions.

PAUL F. BOURSCHEIDT

Peoria, Ill.

To the Editor:

I wish to compliment HYGEIA for the article "They Shall Not Die in Vain." It includes good information for the public and is appreciated by the profession.

FRANK P. HAMMOND, M.D.

Chicago, Ill.

To the Editor:

. . . was a fine article and I hope it changes the opinion of a great many who dread the thought of autopsy.

F. J. BERGSTROM

New York, N. Y.

To the Editor:

. . . I think this is the best thing I have read, especially from the standpoint of the lay person. I am anxious to obtain a few reprints of the article.

EUSTACE L. BENJAMIN, M.D.

Evanston, Ill.

In the Doctor's Office

To the Editor:

Your magazine comes to our office regularly, and I find that it is always one of the first magazines selected by patients to help pass the time until it is their turn to see the doctor.

MAXIE D. PILLSBURY

Knoxville, Tenn.

Covers

To the Editor:

I'd like to commend you on the more "respectful" covers which are being put on the magazine. I feel exactly as the lady did who wrote in protesting them.

MRS. BERNARD NEWBERT

Waldoboro, Me.

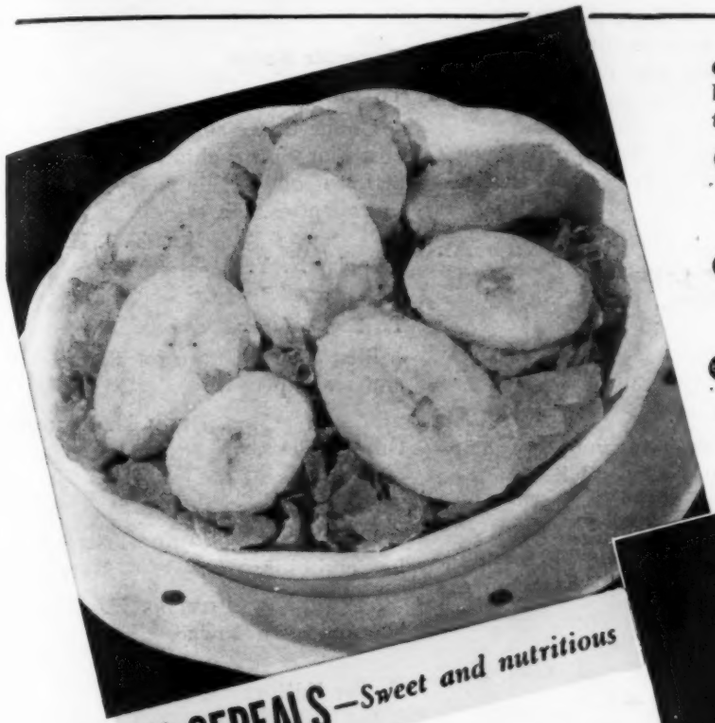
Children's Feet

To the Editor:

In the February issue of HYGEIA there was a most interesting article by John J. McKee of Lorain, Ohio. It has great educational value and makes it possible for people to see conditions that have been sadly neglected. Malformations, corns, bunions, hammer toes, calluses, shortened heel cords and ingrowing toenails are all traceable to shoes incorrectly fitted over a period of years.

(Continued on page 408)

BANANAS...a natural sweetener



ON CEREALS—*Sweet and nutritious*

● One fully ripe banana (yellow peel, flecked with brown), average size, contains the equivalent of 4 to 5 level teaspoons granulated sugar—as follows:

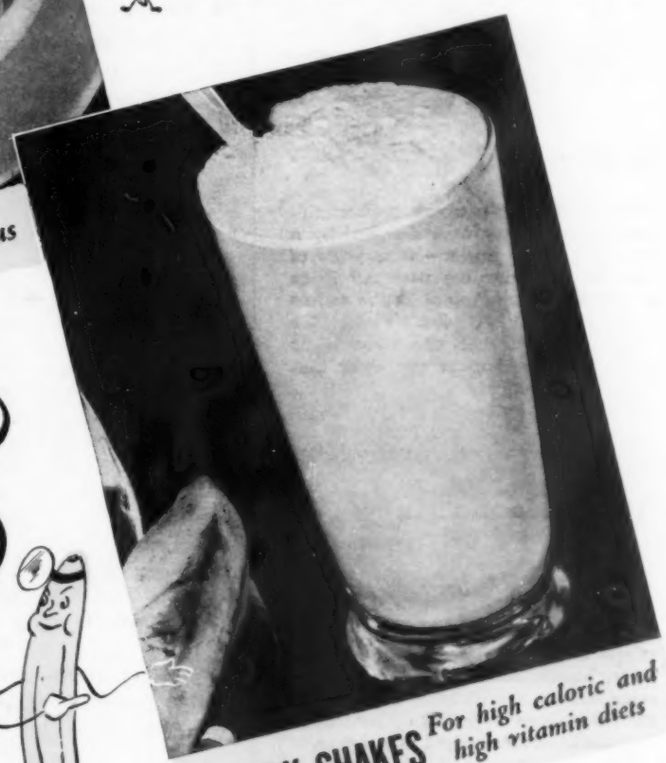
4.6% dextrose	Total sugars 20.4%
3.6% levulose	
12.2% sucrose	

PLUS

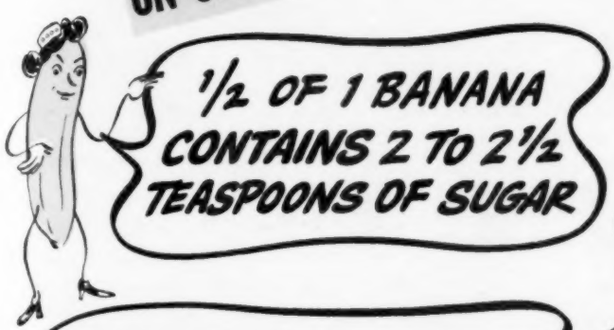
Vitamin A	310-420 International Units
Vitamin B_1 (Thiamin)	52-67 Micrograms
Vitamin G (Riboflavin)	110 Micrograms
Niacin (Nicotinic Acid)	75 Milligrams
Vitamin C	12.5-13.7 Milligrams

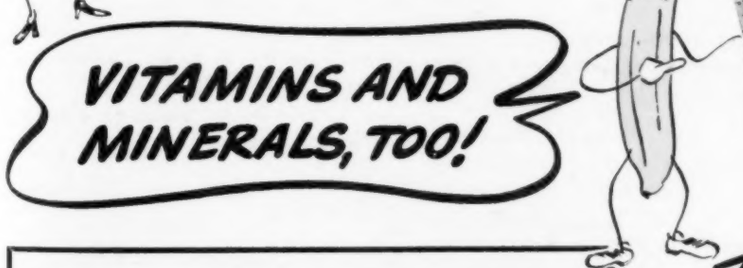
PLUS

11 Essential Minerals . . . . . 120 Calories



IN MILK SHAKES *For high caloric and high vitamin diets*





FREE UPON REQUEST

Revised edition of "Dietary Uses of the Banana in Health & Disease," by L. Jean Bogert

★ ★ ★

Educational Department I
UNITED FRUIT COMPANY
Pier 3, North River, New York City

Banana Milk Shake

(290 CALORIES)

1 fully ripe banana* **1 cup COLD milk**

**Use fully ripe banana . . . peel well flecked with brown*

Peel banana. Slice into a bowl and beat with electric mixer or rotary egg beater until smooth and creamy. Add milk and mix thoroughly. Serve COLD. Makes a 10 to 12 ounce drink.

NOTE: If electric drink mixer, which crushes fruit while mixing, is used, break banana into mixer cup, add milk and mix. Add ice cream before mixing, if desired.

Banana Milk Shake is only one of the many new uses for Bananas.

Do's *and* Don'ts *about*

Tampons

Don't *be old-fashioned*

A few years ago, the very thought of tampons was startling—today millions of women know they make sense. Every month, more and more women discover the wonderful freedom of *internal* sanitary protection. So don't be timid—but do be wise! Choose a tampon that's *right* for you.

Do *get a tampon that fits!*

Meds, the Modess tampons, are scientifically correct. They were designed by a leading woman's doctor—after years of scientific experimenting with *all* kinds of tampons. Comfortable? You're as free as any other day! No pins. No odors. No bulges. Easier to use, too. Each Meds comes in a one-time-use applicator that ends old difficulties.

Do *be sure of real protection!*

Protection depends on *how fast, how much* a tampon absorbs. Meds absorb *faster* because of the "safety center." No other tampon has it! Meds are made of the finest, pure cotton—they hold more than 300% of their weight in moisture.

Don't *pay more!*

You don't have to now! Meds cost *less* than any other tampons in individual applicators. No more than leading sanitary napkins. Try Meds! Compare! You'll be glad you did!

BOX OF 10—25¢ • BOX OF 50—98¢

Meds

The Modess Tampons

Orthopedic surgeons say: "Over 72 per cent of children prior to adolescence have malformed feet." Col. Norman T. Kirk of the Walter Reed Hospital stated to me: "Tell shoe retailers to fit feet correctly. This would make it possible for us to receive men in the Army with feet that are not malformed and distorted. This condition begins with children . . ."

May I again compliment HYGEIA on this article and hope that we may have more of this type of material.

H. L. WHITMAN
C. S. Pierce Company
Brockton, Mass.

Wrong Age

To the Editor:

I subscribed to your magazine for years and enjoyed it, but then you changed your policy and put in too many "teen age" articles which made it undesirable for adult reading. Therefore I canceled my subscription. I've heard other people say the same thing.

MARION METZ
East Orange, N. J.

First Aid Teacher

To the Editor:

I am so busy teaching four first aid classes I don't seem to have my mind on anything else—just wanted to make sure I didn't miss a single number. You see why HYGEIA is so necessary to me!

MRS. A. B. MANLY
Washington, D. C.

Health Department Library

To the Editor:

As extensive use is made of HYGEIA in the library of this department, we are in need of an additional subscription. I hope you will be able to supply issues from January 1942 so that we may have a complete volume for the year.

ANNA E. WELLS
Department of Health and
Public Welfare
Winnipeg, Manitoba, Canada

Useful in Mexico

To the Editor:

Please remember that my subscription ends in May 1942 and immediately I will renew it because HYGEIA is the most useful health magazine I have ever known.

HERACLIO CABRERA
Orozco y Berra, Mexico

Requests Noted

To the Editor:

I hope to see some article or articles soon on psychiatry. Also some articles on psychometry, psychotherapeutics, etc.

MRS. T. J. MULLEN
Astoria, N. Y.

To the Editor:

Please write more on Malta fever and warn people!

MRS. HUGH M. RAGLAND
Gilmer, Texas.

To the Editor:

Please publish an article on hemorrhoids. . . .

PHYLLIS Y. BENSON
Marshalltown, Iowa

To the Editor:

Do you have in mind publishing anything on the causes and treatment of alcoholism?

DENNIS DICKSON
Chicago, Ill.

Psychiatric Rejections in Selective Service

To the Editor:

I wonder if you could have an article in HYGEIA soon on how many cases of neurosis are found by the draft boards, the chief causes, prevention, cures, etc.

MARY H. MURPHY
Cleveland, Ohio

See "Forecast," page 402 of this issue.—ED.

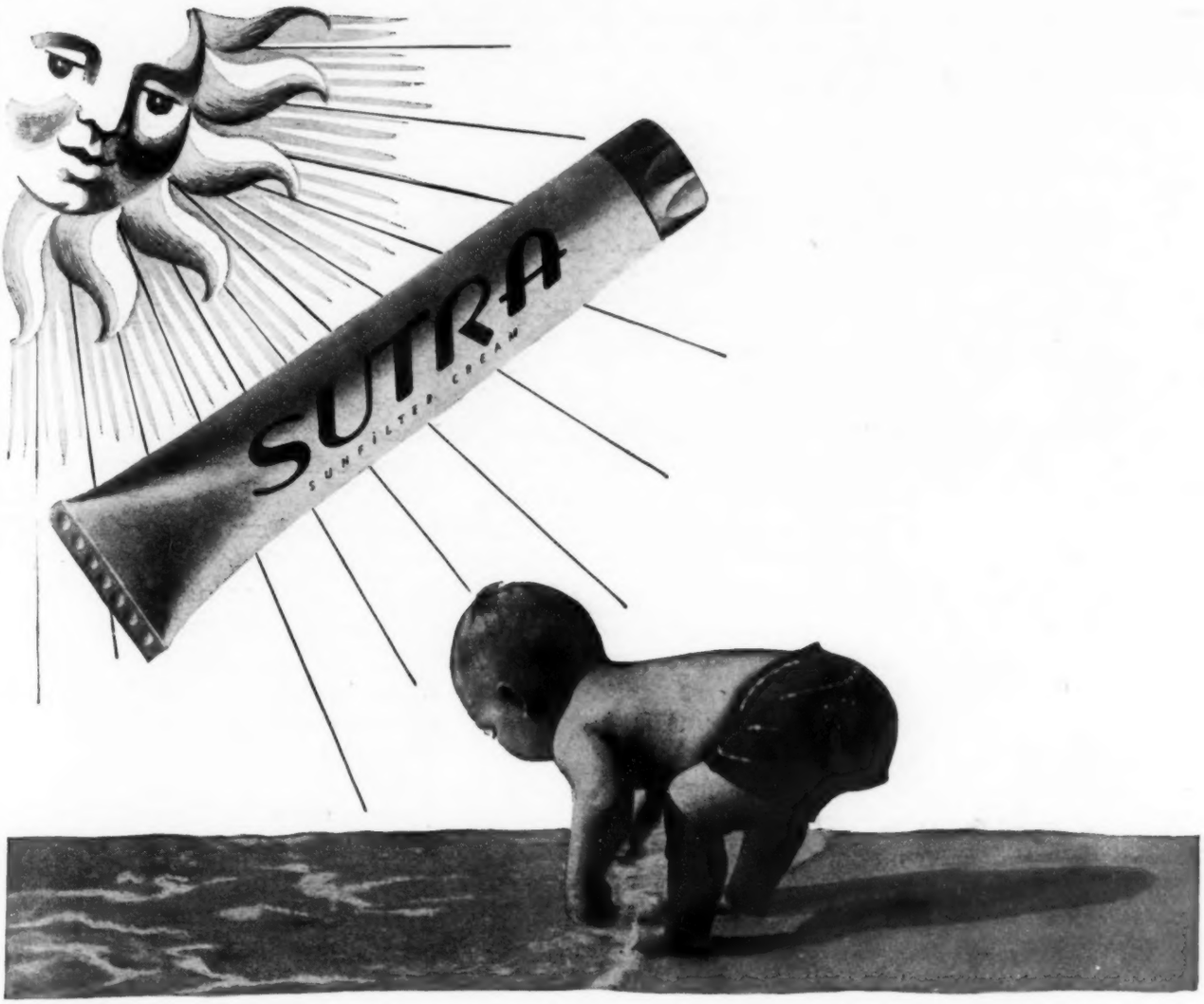
Business as Usual

To the Editor:

Several years ago I subscribed to a magazine called HYGEIA, The Health Magazine. I always found it very instructive and I would like to have it again. Do you still publish it?

LUCY M. ATKINSON
Mt. Sterling, Ky.

Yes.—ED.



He's such a little fellow

Regular sizes 65¢ and $1.00—Generous trial tube 25¢. If your drug or department store is out of stock, send direct to address below for any size postpaid. Add 10% for Federal tax.

Accepted for advertising in the Publications of The American Medical Association

*Reg. U. S. Pat. Off. U. S. Pat. Pend.

The invaluable aid of sun bathing for children is now possible without fear of injury to their delicate skin. SUTRA,* the selective sunfilter cream, quickly and easily applied before exposure to sun, will shield against harmful rays. Spectroscopic tests prove that the exclusive filter ingredient used in SUTRA will permit entrance of the desired tanning rays. With SUTRA both children and adults may now enjoy health-giving sunlight with less chance of harmful results.

SUTRA is non-greasy,* stainless and delicately scented. Made as carefully as a fine pharmaceutical.

ARTRA COSMETICS, INC., Bloomfield, New Jersey

Periodic Health Examinations

A COMPLETE PHYSICAL EXAMINATION nowadays is more complicated than it used to be. It includes a careful investigation of the ability of most of the organs of the body to carry on their functions. Not only are the eyes, ears, nose and throat examined as to their freedom from infections, but also such important organs as the heart, the lungs and the kidneys. The doctor finds out whether or not the heart is doing its work without difficulty. He studies the urine to see if the kidneys are getting rid of waste materials brought by the blood, without any serious destruction of the kidneys themselves. He will ask for an x-ray of the lungs, perhaps also a tuberculin test, then he will tap the chest and listen to the sounds, and he will also use his stethoscope to listen for sounds that indicate whether or not the lungs are functioning satisfactorily. He may even make a test of the vital capacity, which is a determination of the amount of air that is breathed into the lungs and that breathed out. Tests indicate to the doctor whether or not the heart is of normal size, and whether or not the rate and volume of heart beats are as continuous and consistent as they should be.

The modern periodic physical examination involves the use of a number of devices for accurate measurement of factors about which doctors used to guess. With a device called the mercury manometer, the doctor determines the height of the blood pressure at the time when the heart is contracted and also when it is relaxed. With a series of tubes for measurement and solutions for fixing and dissolving various types of blood cells, the doctor determines the number of red blood cells and the amount of red coloring matter they may contain. He determines also the number of white blood cells and whether the different varieties of white blood cells are in the proper percentages.

A complete physical examination includes a study particularly of the orifices of the body. The presence or absence of hemorrhoids is determined, and any abnormal bleeding from the mouth or rectum or any other portion of the body is given special investigation, particularly in persons who are past middle age. The modern physician studies the feet to see whether or not they are able to sustain the weight of the patient. He will ask whether or not the feet swell at night and will determine if the veins have become varicosed or if there is any breaking down of the valves that sustain the column of blood.

In addition to all of the physical tests, the doctor inquires carefully into the habits of sleep and rest, the amount of outdoor air that the patient gets, the amount of exercise he takes and the nature of the exercise. These studies of functions are most useful in determining the capacity of the patient to undergo his ordinary existence. Nowadays special attention is paid to the diet. The physical examination records carefully what the patient eats over a period of days, so that the doctor may make certain whether or not the patient is receiving all of the necessary protein, carbohydrates, fats, vitamins and mineral salts.

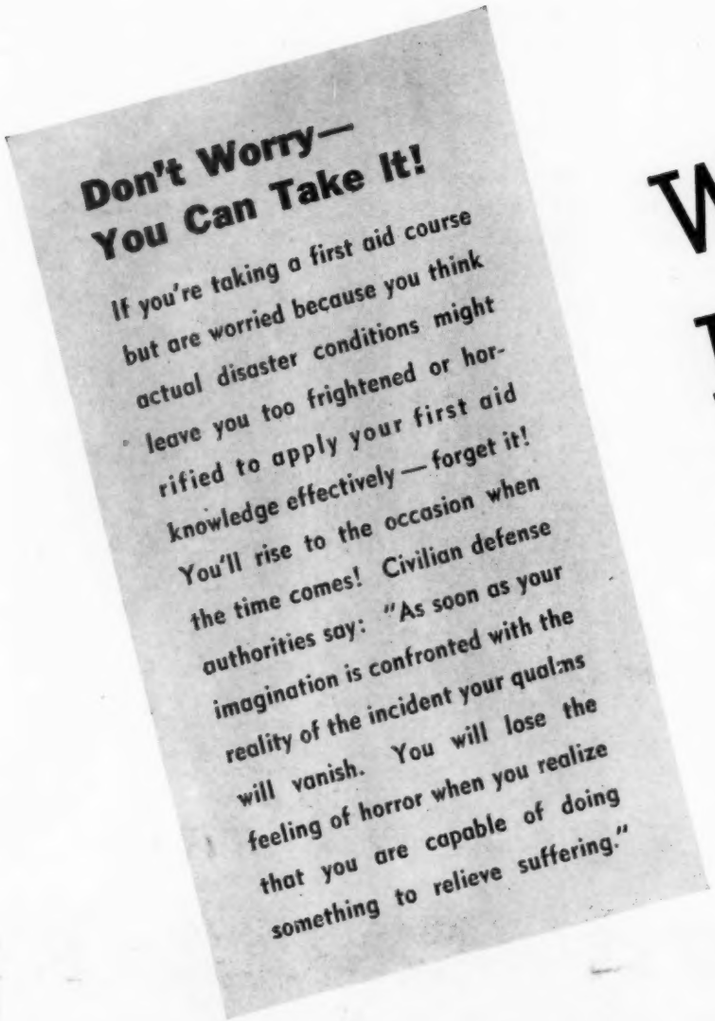
In making the complete physical examination the doctor may be aided not only by the clinical laboratory technician who can help in the studies of the blood and the urine, but also by specialists in x-ray who make the necessary pictures of the lungs, the heart and the intestinal tract. Both the x-ray specialist and dentist assist in the study of the teeth so that cavities can be found at the earliest possible

Torkel Korling

The importance of periodic physical examinations is widely recognized today in educational institutions; many large universities now make such examinations compulsory for all students.

moment and any infections of the teeth which are a hazard to the rest of the body can be properly controlled.

Such accurate measurements as those of height, weight and chest expansion help the doctor in determining whether or not the man or woman is underweight or overweight in relationship to age and height. Since we know that overweight after middle age is a hazard to longevity, this is a factor which demands special attention. Thus a periodic health examination or survey may mean years of additional life. Through recognition of changes at the earliest possible moment, the progress of menacing degeneration and infection is stopped and a suitable plan of living prepared to maintain continuous health. Intelligent executives, leaders in the field of insurance and by far the majority of physicians have learned to appreciate the value of a health examination at least once each year, preferably twice after middle age, and also the importance of utilizing this occasion for the writing of a health prescription. A good health prescription takes into account all of the health needs of the person concerned. It may not recommend a single drug or medicine to be taken internally or externally, but it will include recommendations as to diet, rest, exercise, work, social adjustments and recreation, which are certain to mean increased years of healthful living and activity.



WARTIME FIRST AID

By LOIS STICE

WILL YOU be ready to lend a hand in an air raid if the Army's sky watchers flash a "red warning" in your town? The "red warning" is a signal to be used by the Army Interceptor Command to announce that a community is in danger of bombing. It is part of a carefully devised system that provides first a "yellow," then a "blue" warning, both issued confidentially to certain key persons. When "red" is flashed the air raid sirens are sounded to warn the public that an air raid may occur within five or ten minutes.

Air raid wardens, rescue squads, stretcher teams, demolition crews and emergency medical field units all over the United States are now drilling and studying against the day when bombs may fall.

The Medical Division of the Office of Civilian Defense started its work in the summer of 1941 with a three part program. It began to mobilize hospitals, doctors and nurses into emergency field units for the medical care of civilians who would inevitably be injured if war came to the United States. It entered into cooperation with the American Red Cross to train nurses' aides to relieve pressure on hospital nurses, and in another to spread first aid training through the general population.

When the Division issued its first bulletin outlining the Emergency Medical Service, Mayor LaGuardia, then United States Director of Civilian Defense, quoted these words from a British publication of 1938:

"The need for these measures is not related to any belief that war is imminent. It arises from the fact that the risk of attack from the air, however remote it may be, is a risk that cannot be ignored and because preparations to minimize the consequences of attack from the air cannot be improvised on the spur of the moment, but must be made, if they are to be effective, in time of peace."

For the United States in 1941, as for the British in 1938, war was even more imminent than we thought.

Before Japan's bombs crashed down on Pearl Harbor last December 7, many hundreds of hospitals in vulnerable areas had organized for service under the local defense plans. Since that fateful day, additional hundreds have been hard at work to perfect their organizations. Briefly, this is the way the plan will work:

Emergency medical field units are organized in hospitals. The unit consists of two or more squads, each composed of at least two physi-

cians, two or more nurses and two or more orderlies or nurses' aides. With this organization the squads can be split up into teams which can set up first aid posts close to the scene of a disaster.

The United States is benefiting enormously from study of the British experience of the past two years. Our Emergency Medical Service follows in general the pattern that the British have evolved out of grievous trial and error, though the American version has been adapted to local needs and conditions. Several medical officials who went through Britain's travail spent many weeks in the United States advising our civilian defense planners, and we have had our experts "over there."

One of the earliest lessons that Britain's home defenders learned was that it was not generally imperative to send first aid workers to the scene of a bombing immediately. More often than not, the injured are trapped under rocks and rubble, glass and girders. Many hours of work by the demolition and rescue squads are required before any first aid can be given.

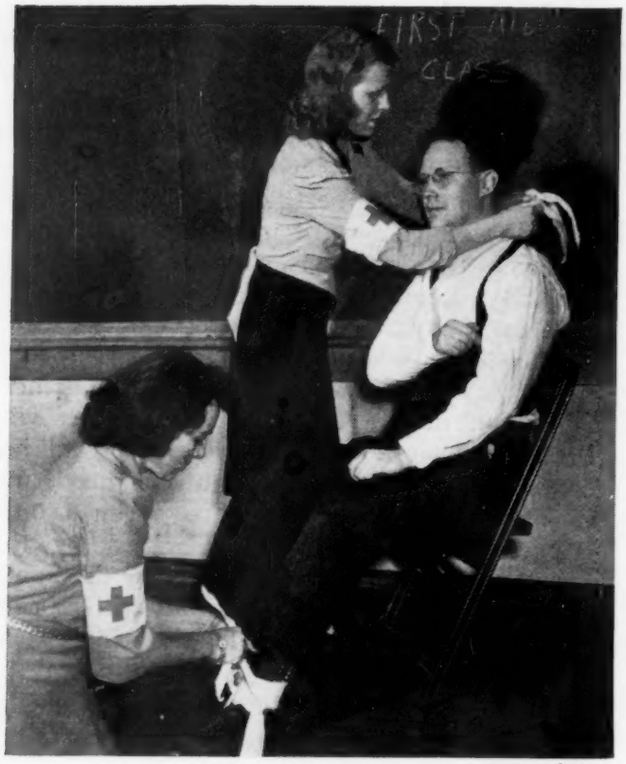
Another British lesson was that air raid casualties are usually severe, though fortunately rarely numerous. Because of their severity, our plans differ from the early British pattern in that our medical field units are based on our hospitals.

In the Emergency Medical Service, American plan, emergency units will be called out by the Control Center of the Citizens' Defense Corps after the air raid warden has reported where and what the damage is. Squads will move to Casualty Stations from which individual medical teams may be advanced closer to the scene of disaster to care for the severely injured persons who are being extricated from the demolished buildings. The casualty stations will limit their work to the care of the walking cases, those who are only slightly injured, and to restoring persons who are perhaps only frightened or temporarily disabled by the blinding, choking dust stirred up by the bomb explosion. The seriously injured will be sent directly from the advanced First Aid Post to the hospitals.

In the emergency medical field units will be experts in first aid who know how to make the injured comfortable, how to prevent shock, control pain and hemorrhage and expedite them to a hospital. All other enrolled civilian

A first aid class practices splinting and bandaging. The first rule in handling fractures is expressed in the picturesque phrase, "Splint 'em where they lie!" First aid courses provide several hours of instruction in the methods of applying splints.

Blue Cross Plans Photo



Acme

Throughout the country, employee and community groups have responded enthusiastically to the opportunity to learn first aid technic.

Acme

On the West Coast, air raid precautions and blackouts are already an actuality. Movie studio employees take first aid seriously.

Blue Cross Plans Photo

"At least one person in every household trained in first aid" is the goal of the Office of Civilian Defense and the American Red Cross. Thousands of groups like this are being trained.

defense workers must have some knowledge of what to do until the doctor comes, and they must therefore know first aid.

Suppose one of the trained workers is not at hand when some one in your house or next door is found with a hemorrhage or a broken bone? What will you do if you suspect that a person has been exposed to poison gas? Will you know how to work in the dark and in the midst of confusion? An air raid may go on for hours, and you cannot wait for light and order.

The goal of the Office of Civilian Defense and the American Red Cross is to have at least one person in every household trained in first aid. There are two courses: the specially planned course with twenty hours of instruction for those who have never had first aid training and the advanced course with ten hours for those who have had previous training. The Red Cross already has more than 100,000 instructors and is training several thousands more each week. Physicians, nurses and dentists are reviewing their knowledge and practice of advanced first aid so that they may also teach classes and serve in the field.

Acme

What first aid knowledge can mean in emergencies is demonstrated by ambulance drivers in Britain!

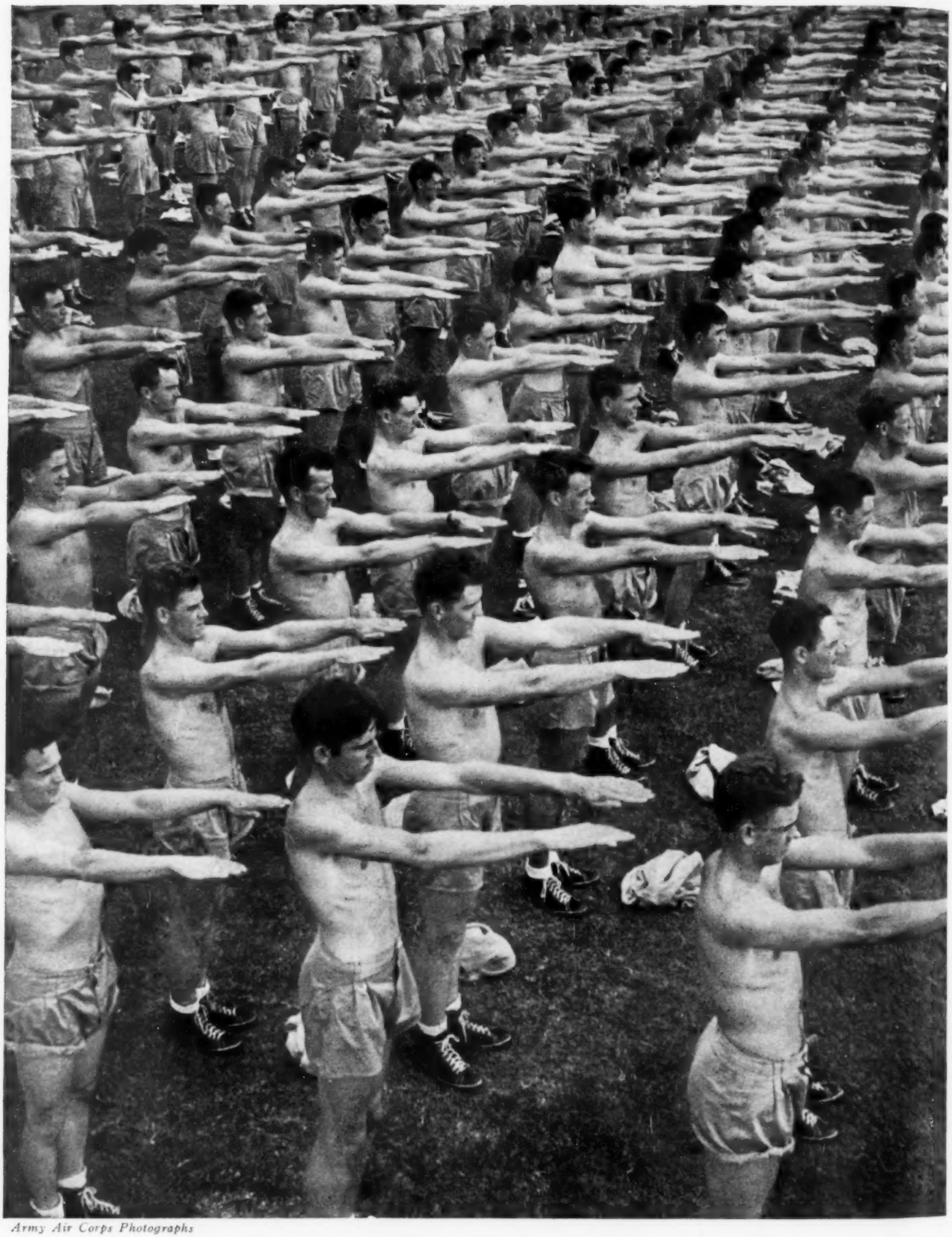
To those whose lives have been so sheltered that they have perhaps never seen a seriously injured person and may wonder if they will be equal to the occasion, the civilian defense authorities offer reassuring words: "As soon as your imagination is confronted with the reality of the 'incident' your qualms will vanish." You will lose, they say, the feeling of horror when you realize that you are capable of doing something to relieve suffering. This account attempts to outline the conditions you may expect to meet if you live in an area likely to be bombed. To be able to practice first aid you must have expert instruction and many hours of continued practice.

The first aid classes now being given concentrate on the injuries of war. The peacetime course has been stripped down to the essentials needed in the emergency that is now upon us. Bomb fragments cause characteristic wounds. Crushing injuries and fractures are caused by falling timbers. Burns are frequent and serious in this war in which fire is such an important weapon. Although gas has not yet appeared as a major factor in World War II, prudence demands that we learn something of its effects.

When you take your civilian defense first aid course, you will learn what to do for many types of wounds. The first commandment, of course, is to call a doctor.

You will need to know something about shock, or collapse, which occurs in some degree in all injuries. First aid measures for shock are simple, but remember—a war casualty may die if these measures are neglected! Shock following injury probably causes more deaths than the injuries themselves. The nervous system is depressed, the circulation of the blood diminishes so that sufficient blood does not reach the brain. Lay the person flat with his head low and feet raised. Keep him warm with blankets (both over and under him) and hot water bottles. Give him warm and sweetened drinks (unless unconscious), but no alcoholic drinks.

Head injuries are common war wounds. If a piece of what used to be his house or his neighbor's house strikes a man on the head or the blast of a bomb flings him against a wall, his brain may be damaged or his skull fractured, perhaps without any outward sign. Sometimes there is a watery discharge from the ears. There may be a scalp wound, one of the most terrifying of all injuries because it is likely to bleed profusely. *(Continued on page 440)*



Army Air Corps Photographs

Aviation cadets at the "West Point of the Air," Randolph Field, Texas, are required to spend at least an hour a day at conditioning and hardening exercises which contribute importantly to the muscular coordination and body control needed to fly modern planes.

Physical Training for ARMY FLYERS

By JAMES E. PIXLEE and E. K. GUBIN

FROM THE MOMENT an aviation cadet enters the United States Army Air Force until the day he finishes his instruction and becomes a full fledged member of the corps, he is obliged to spend at least one hour each day on physical training. There is no exception to this rule, and military drill, no matter how arduous, is not considered as a substitute for meeting the requirement of this daily hour of exercise.

This may seem a strange rule, since the only men accepted as trainees are those 100 per cent physically fit. The examination applicants undergo before they enter the Air Force effectively weeds out the physically unfit, for regulations regarding physical condition are so stringent that 70 per cent of the applicants are rejected on medical grounds. However, the reason for the rule of compulsory physical training is simply this—trainees do not necessarily stay fit merely because they are fit when they enter; they must continue to exercise daily under skilled instructors to keep at the peak of physical condition required by their occupation.

Experiences in the last war showed the necessity of continuous high physical fitness for aviators, particularly pilots. The English discovered at the end of the first year of World War I that of every 100 pilots killed during that period, 2 died as a result of enemy action, 8 from defective equipment, and *90 from defects in the pilots themselves.* By the end of the third year, the figure of 90 was reduced to 12 by carefully watching the physical condition of the individual pilots and not allowing them to fly if they were in any way physically under par.

Nowadays we look further than the pilot. The physical training program in the Army Air Force is compulsory not only for those training to be pilots, but also for those training to be gunners, navigators, bombardiers, yes, and even for those training to be mechanics! Steady nerves, a good eye, and muscles that respond with split-second speed are obviously necessary for the pilot of a military plane that is hurtling through the air at a speed in excess of 400 miles an hour. However, in a bombing plane, or any plane carrying a crew, all members of that crew must be at their peak physically in order to perform the manifold duties required of them. Any error on the part of any member of the crew, no matter how small, may not only cause the destruction of the plane itself and its crew, but also may endanger the lives of other air crews or civilians.

An aviation authority has estimated that only 2 to 5 per cent of all aviation crashes are due to mechanical failure. The training section of the Army Air Force is determined that no error due to faulty physical condition will occur on the part of any one while Army aviators are in training.

The physical training program is not designed solely to build muscle, although one of the important results of this program is the maintenance of the organic vigor of trainees. In addition, the well rounded athletic program of the Air Force reduces nervous and mental tensions, develops neuromuscular coordination, skill and stamina, keeps up the morale of the cadets and otherwise prevents them from going stale from the arduous aviation training program they must undergo. Athletic games are used freely in the program, and to most of the men the physical training is real recreation rather than compulsory work.

To coordinate this physical training program with regular aviation instruction is not easy

PRACTICE MAKES PERFECT

So air cadets combine sports and conditioning exercises with practical routines to perfect body control under flying and combat conditions

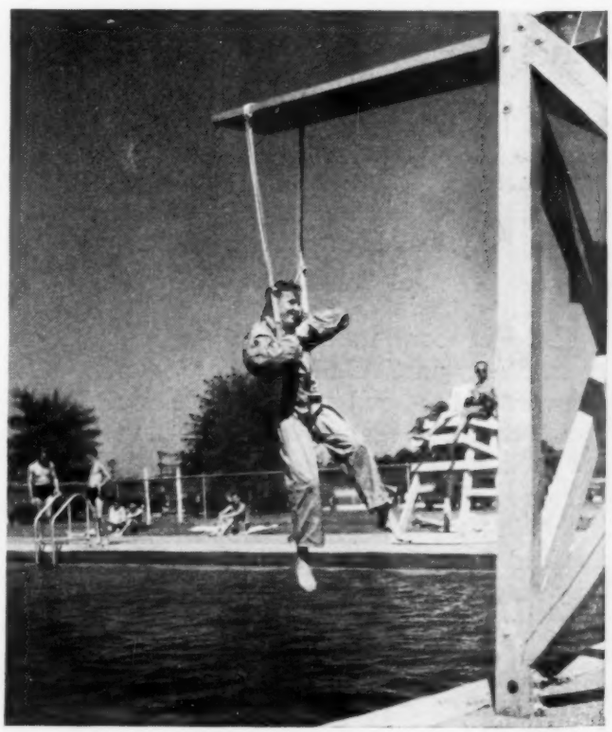
Every flyer is a potential parachutist and must know how to hit the ground without incurring injury—hence "jumping practice."

for today the Army Air Force is engaged in a huge expansion program. Two years ago we were far behind other nations in the training of military aviators, but now that we have started our expansion we will soon lead the world in trained military aviation personnel. In 1939 we trained only 600 Army Air Corps pilots, in 1940 the annual rate jumped to 12,000, in 1941 it totaled 30,000, and by June 30, 1942, we will have a qualified Army Air Force of more than 750,000 men.

Coordination of physical training with flying instruction is accomplished by having a civilian Physical Training Director stationed at Washington with the designation of Technical Advisor to the Chief of the Air Force. The physical training section is a subunit of the Air Force Training and Operations section. Approximately 350 senior and junior civilian physical training directors comprise the present staff, at least one director being assigned to each school, and more where required. Directors work in close cooperation with Flight Surgeons.

At each training establishment exercise is part and parcel of the daily curriculum. Actual classes in physical training are held, and in all places supervision of this activity is in the hands of one of the qualified experts who are civilian employees of the Air Force.

Under present plans each cadet will receive forty weeks of aviation *(Continued on page 462)*



Knowing how to get out of a parachute harness

Split second timing wins air battles for U. S. pilots! An excellent conditioner, fencing takes its place with calisthenics, tumbling, handball and team sports in the rigid training program at Randolph Field. Cadets in the background "limber up" before flying.

and into the water at the right time and in the right manner may save lives—cadets learn this lesson for keeps!

NEW FACTS

ABOUT HALITOSIS

Popular notions about the origin and nature of bad breath are exploded by a new series of scientific experiments, reported here **By ROBERT MARIS**

PRODDED BY FEAR, millions of Americans are scrubbing their teeth or rinsing their mouths out with antiseptic solutions in a frantic effort to protect themselves from the social isolation, failure and unhappiness attributed to bad breath. Worse yet, many are dosing themselves with harmful laxatives, perhaps with permanent damage to their intestinal function, on the strength of the dangerous half-truth that the intestines are the source of halitosis and that common intestinal disorders, such as constipation, may be the responsible cause.

As in the case of other more or less universal ailments like dandruff and athlete's foot, the actual incidence of halitosis is not kown. Dentists—who should know—say that nearly every one has bad breath some of the time, but that the number in whom the condition is constant is not large. Recognizing that occasional halitosis may be caused by specific disease of the mouth, teeth or pharynx, physicians have never agreed on the cause of the thousands of cases obviously not susceptible of this pat explanation. The gastrointestinal tract has been suspected for years in certain groups, but the evidence was flimsy until Drs. Burrill Crohn and Rudolph Drosd, New York gastroenterologists, came forward with conclusive data based on a recent series of experiments with hospital patients recovering from intestinal operations. Dentifrice and mouthwash, they say, can serve only to mask halitosis temporarily, but never to eliminate it; irrigation of the colon is almost equally ineffective, since they found that the odor originates in the *small intestine*.

Interested in the problem because of the conflicting opinions which prevailed, Drs. Crohn and Drosd started their experiments in 1940 with a patient who had undergone ileostomy—surgical removal of a section of the small intestine—with both openings of the intestine anchored in the abdominal wound. The patient was receiving nourishment by means of a tube inserted through the nasal passage directly into the stomach, and thus an ideal combination of conditions for the study of odors was presented: the mouth, stomach, small and large intestines could be observed practically as independent units. The doctors noticed at once that the odor of paraldehyde was apparent on the patient's breath for two days after the drug had been administered through the nasal tube, even though the stomach had been washed out and no trace of the drug or its characteristic odor remained in the gastric juices examined!

Using a strong solution of garlic, they found in further tests that an odor became apparent on the breath and in the discharge from the site of the ileostomy in from three to four hours after injection into the stomach through the tube. By examining the contents of the stomach periodically after each injection, they proved that no odor appeared immediately on the breath even when the gastric content was redolent of garlic; yet later, long after the stomach was free of any residual odor, the breath reeked with an emanation which persisted for as long as forty hours.

In contrasting experiments to ascertain the role of the mouth in halitosis, they painted the surfaces of the teeth and the interstices with a strong garlic extract. The odor was gone in an hour! Similarly, when whisky was introduced into the mouth and stomach and then washed out before it could be absorbed into the intestines, its odor disappeared within twenty minutes. The smell of whisky which was allowed to remain in the stomach, moreover, didn't show up on the breath for three or four hours after injection. Perhaps there's a tip in this for drinkers: Get to your teetotaling aunt's early in the evening and like as not she'll never know that you've stopped for a drink after work. But go home early—the later you stay the more noticeable your breath will become!

Group experiments with subjects representing a wide variety of *(Continued on page 434)*

The HUMAN EYE

The complex structure of the human eye and the functions of its various parts are explained **By JOHN O. McREYNOLDS**

THERE IS A MULTITUDE of details in the various processes of development from the single fertilized cell of the ovum, or egg in the ovary, to the exceedingly complicated human body. We can undertake here only a brief review of the changes especially affecting the eye.

The fertilized human ovum begins without the slightest conceivable delay or hesitation its mighty task of constructing the intricate human organism, and the work must be completed on schedule time of nine months, in spite of all difficulties that may be encountered!

The initial steps are chiefly concerned with the production and multiplication of cells which constitute the necessary building material. These innumerable cells are produced by the process of constant and uninterrupted division and subdivision—a single cell becoming two, then four, then eight, then sixteen, then thirty-two and so on indefinitely, with the result that instead of a single speck of living matter, we soon have literally millions of them.

These are soon arranged into two layers, or groups. The outer layer is called the *ectoderm*, and the inner layer is called the *entoderm*. Later, there is developed between these a third, middle layer called the *mesoderm*. These three layers are spoken of as the germ, or embryonic, layers. Still later there is instituted an additional process called *histogenesis*, which indicates the differentiation of certain groups of cells for the purpose of forming ultimately the different parts of the body.

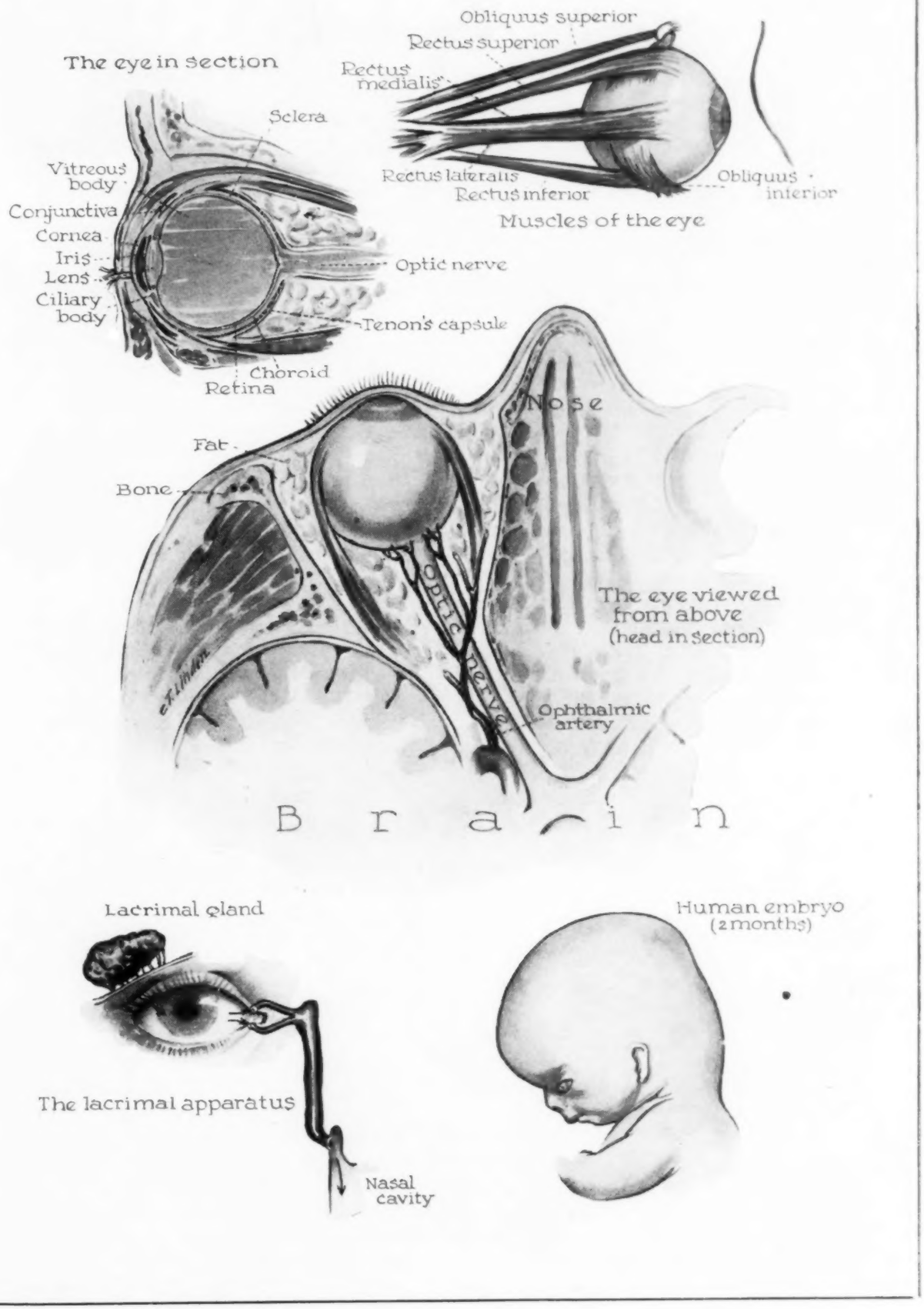
Throughout this rapid unfolding of these complicated plans we can discover the mysterious imprint or command of nature. One group of cells is destined to produce the tough fibrous structures of the eye; another group, the transparent fibers of the crystalline lens; an additional group forms the muscles, blood vessels and pigment of the iris; while still another group creates the nerve tissues of the retina as well as the motor and sensory nerves.

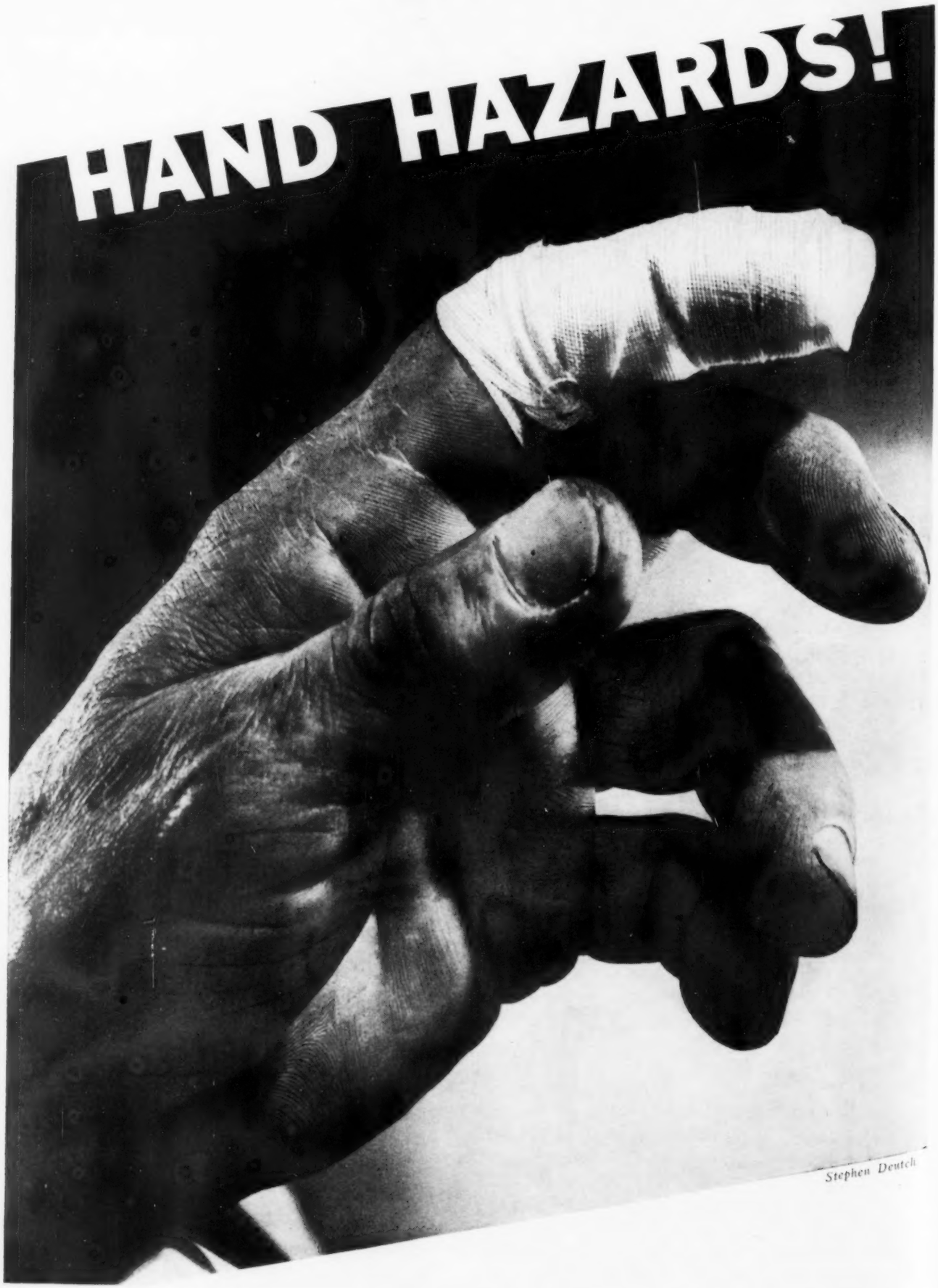
A feature of absorbing interest is the fact that these original germ cells contain within themselves the inherited latent powers that determine their destinies. From the very beginning it is ordained that certain cells have been set apart for the production of certain kinds of structures, and that they perform their appointed functions with marvelous fidelity. In the main, the inherited potentialities of each group of cells govern their activities, but many incidental circumstances may be introduced which might modify the final result.

At the end of the second month of pregnancy, the entire human embryo is about one inch in diameter, while the embryonic eye itself is already definitely outlined and well on the way toward its final purpose of serving as a visual organ, one of the most important factors of human life.

During the prenatal development of the eyes certain changes take place in the fragile bony framework of the skull whereby two cavities are formed for the reception of the eyeballs. Even at this early stage a lash-fringed shade—the lid—is drawn over the eyeball and is provided with such a delicate adjustment that in life it will respond automatically to the needs of the individual.

In human beings the lids are kept closed during prenatal development for the increased protection of the eyeball, while in some lower animals, as in puppies, the eyelids remain closed for several days after birth, until all danger from external injury and infection has disappeared. These are embryologic or prenatal safeguards for the important function of vision, but errors in nourishment and certain kinds of toxins or poisons may enter as active factors, causing failure in this process of prenatal development. *(Continued on page 470)*


The eye in section
Sclera
Vitreous body
Conjunctiva
Cornea
Iris
Lens
Ciliary body
Optic nerve
Tenon's capsule
Choroid
Retina
Obliquus superior
Rectus superior
Rectus medialis
Rectus lateralis
Rectus inferior
Obliquus inferior
Muscles of the eye
Nose
Fat
Bone
Optic nerve
The eye viewed from above (head in section)
Ophthalmic artery
Brain
Lacrimal gland
The lacrimal apparatus
Nasal cavity
Human embryo (2 months)


HAND HAZARDS!
Stephen Deutch

***By a wide margin, injuries to the hand head the list of industrial and domestic accidents. Yet most hand injuries are avoidable—with a little care. How to escape these disabling injuries is told by* RAYMOND A. BRUNER**

WHEN A GREAT PIANIST, violinist or surgeon injures a finger or a hand the event becomes an important story for news service wires. Every one realizes how careful a man in such a profession must be to protect his hands against the slightest injury or infection.

It seldom would be considered news, however, were a politician to receive such a disability, but in a large midwestern city recently a seemingly trivial scratch on a politician's hand became a story worth printing. Meeting a number of people at a banquet, he warmly greeted an old friend and as he losed his grasp, he winced with a sharp sensation of pain. A ring on the other man's finger had scratched him slightly. He paid little attention to it and went the rounds of eating, speechmaking and jubilation.

Later that night after he had gone to his hotel room, he noticed a little swelling around the wound, applied some antiseptic and went to bed. Toward morning he was awakened by an intense throbbing of the finger and found it was badly swollen. Because the pain was intense, he immediately called a doctor, who realized the seriousness of the infection and sent him to the hospital.

He was in the hospital for two weeks. He learned that, had the doctor not acted promptly, he might have lost his hand, his arm or even his life! Like most of us, he never dreamed that a trivial hand injury could cause such serious illness. Because the holding of public offices had for years required a great amount of speechmaking, he had regularly employed a nose and throat specialist, but he had never thought very much about his hands.

Among all the injuries reported to state industrial commissions, those of the hands are still in the lead. The most hazardous place for the hands is the farm, and the next is the home. The number of hand injuries among 1,000 workers in a large industrial plant would be only a small fraction of those occurring in 1,000 homes. According to some medical estimates, the fraction would be about one in 100.

The care of the hands is attracting an increasing amount of attention from the medical profession, particularly now that hands have become such a vital factor in winning the war. A study of the anatomy of the hand clearly suggests many danger points that cannot be too carefully considered. It is a highly complex structure assembled for great versatility of action. Touch the end of the thumb to each of the four fingers in succession and observe the fine mechanical arrangement necessary to make such movements. Watch your hand closely as you tie a knot in a piece of string and observe the beautiful coordinated motions. The hand has twenty-five bones and more than thirty tendons, all of which must articulate smoothly. To carry out their operations they must be well supplied with a complexity of nerves, blood vessels and lymphatics.

Especially receptive to infection are the lymphatic vessels and the sheaths or tunnels inside of which the tendons move. Infection may enter the finger tips and be carried as far as the shoulders by way of the lymphatic vessels. The tendon sheaths extend down to the wrists and provide an easy path for bacteria to travel. An infection of the thumb, for example, may travel to the wrist by way of one of these sheaths and back up into the other fingers. Some infections that are permitted to become far advanced before a doctor is called provide a baffling problem for the surgeon, who must know by what pathway they have spread before he operates to halt their progress.

The housewife probably needs to be more wary than any other potential victim of hand injuries, for she is one of the most frequent sufferers and unlike factory workers often receives no immediate medical attention. The young bride whose chief experience has been the operation of a typewriter or the scribbling of stenographic notes is a ready victim of many types of injuries. Coming from an office into the home she gets her first introduction to complex gadgets and machines she has never been taught to respect.

One of her wedding presents may have been a beautifullly streamlined meat chopper, which she is anxious to try, so she goes to the meat market and buys a thick slice of steak. Cutting it into chunks, she *(Continued on page 446)*

How to Enjoy

THE BENEFITS of an occasional illness—say once a year—are so obvious that it is a reproach to the medical profession that more publicity hasn't been given to the matter. The ailment must not be too severe, but it must be grave enough, of course, to have caused some preliminary anxiety and to make necessary the luxury of having the doctor call at the house. The latter event in itself is healthful and exhilarating; it gets the convalescence under way before a single medicine bottle is open. The patient must be in fresh pajamas and between crisp sheets, preferably the best in the house. Naturally, the room has been made tidy, and if possible the whole household has been put on a workmanlike basis to service the sickroom efficiently.

RELIEF—THEN REST

The good physician's first concern will be to dismiss the idle fears of the patient. There is no trouble with the appendix. There is nothing wrong that a little rest will not fix. The throat is a little red. There are some other symptoms that will yield to a prescription. The patient must stay at home at least three days, and when he gets up again he must take it somewhat easier.

These are words that have an infinitely soothing sound. The patient must resign himself to being waited on for

Poor Health

Getting the most out of the occasional mild indisposition which puts us to bed for a few days is a fine art. Reprinted from "Topics of the Times," a column in the New York Times

several days. He must eat off a tray, he must drink a great deal of orange and other fruit juices. He must have delicacies to tempt the appetite. There must be an atmosphere of relaxation and quiet. Trouble must stay outside the door.

RADIO—BUT NOT TOO MUCH

Just as it is unwise to crowd too many boisterous visitors into a hospital room, so it will be imprudent for our patient to bring too much of the outside world to his bedside. While he is abed there is almost nothing he can do to help win the war; it will not help him or the war to listen to it on the radio. He had much better listen to some danceable music.

A detective story where the emphasis is on deduction rather than violence will be helpful, and there should be magazines with summery pictures that draw the attention forward to a happier season. These should stress the remodeling of old houses on New England hillsides or portray the delights of a visit to the Alps. Everything having to do with an enforced stay in bed should be on the utterly impractical side.

If the convalescence has started, as it properly should, with twelve to fourteen hours' sleep, the patient is in a suitable frame of mind to contrast *(Continued on page 462)*

Advice to the DENTALLY FEEBLE

By MARGATE KIENAST

MANY TOOLS needed for national defense are missing. Thousands of them have been lost from the personal equipment kits of young soldiers in the Army and young men and women in industry! The empty places in which they belong—whether the tools have been broken, damaged or weakened by neglect and eventually discarded—are now just untidy parking lots for debris.

Face facts. Could you get a job in Uncle Sam's Army? You are a grownup—how many teeth have you left in your mouth? Teeth are tools which are called on to work. How many vacant spaces are being used as parking lots for pieces of stray food just long enough for decayed bits of the meal before last to damage your digestive system?

How many teeth have you? If you have just a few old timers left you don't have to sit there and take it. Somebody can build you a new set and work them in around your original stock. The thing you have to do is to find a good dentist. Decide upon the alibi you'll give him for staying away so long. You can easily convince yourself of the cash and carry advantages of starting out now. Go to your dentist once—then be firm about continuing.

Life is too crowded to spend a great deal of time and effort on your dental equipment. Your teeth are certainly worth a few mighty efforts to put them in shape as a starter. Then you can relax and taper off to the good old American system of having your chewing apparatus checked at regular intervals. Your repair bills will be small, time lost will be cut down and serious difficulty is not likely to follow.

Don't squirm about that opening session with the dentist! You do have a twinge now and then when you bear down on that left rear tooth. You have been meaning to do something about it since a year ago ground-hog day, haven't you? Sticking oil of cloves into it last time didn't help, did it? And you had a bad taste in your mouth when you bit on it.

You should have a bad taste, if there is pus in the structures around the tooth. It depends on what you are chewing, of course, but the pressure you use in an average bite is estimated at 126 pounds. University of Minnesota athletes rolled up that score on a gnathodynamometer—the instrument that measures bite pressure. If you apply such pressure several thousand times a day, it is easy to understand how a deep lying infection between the root and the jaw bone can easily be forced into the blood stream. And when those germs go on tour, you are liable to get a kick back from a far-away spot in your general system.

The idea of going to the dentist is to save teeth. Take yours to be saved. Decay always begins on the external surfaces of a tooth. It never bores from within. Certain areas on tooth surfaces are more liable to decay than others. Pits and fissures on the grinding edges make them especially susceptible. Surfaces in between the teeth are more likely to decay than outside exposures which get smoothed over by the adjacent tongue, lips or cheek.

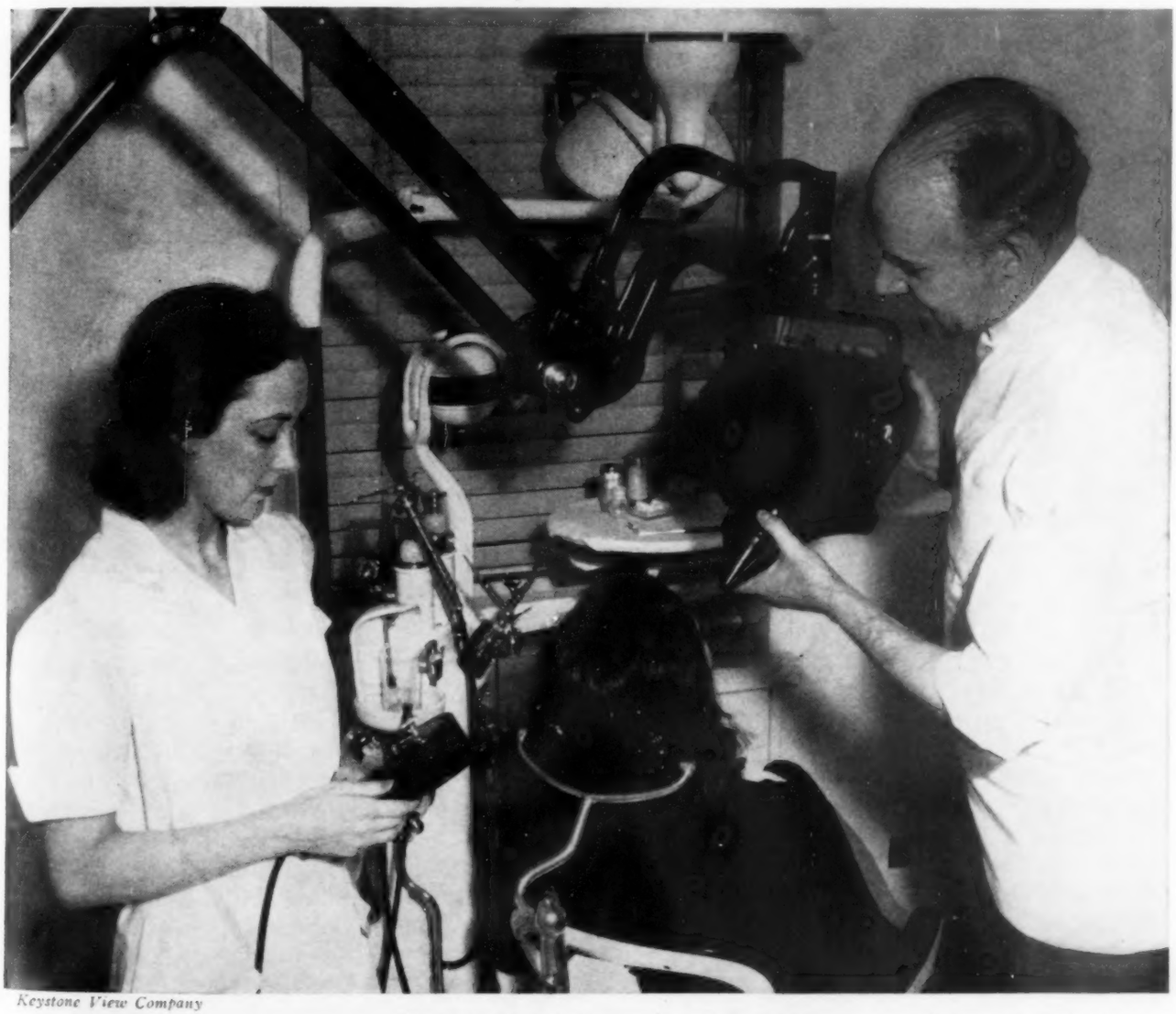
Of what is a tooth made? Various tissues—none of them bone. One of your handicaps is that if you crack them up they'll never repair themselves, as body parts made of flesh and bone will. A hole in your tooth doesn't heal!

How does the hole get there in the first place? The enamel which covers exposed surfaces is made up of small, six sided prisms like a six sided pencil before it is sharpened. If you have been biting into very hard candy or cracking nuts with your teeth, you may crush some of the tiny prisms. The broken prism will leave a hole in the enamel. Then the tooth will decay if the hole is not properly prepared and filled by a dentist. That is the accident angle.

Most dentists today believe that dental decay is not produced by any single factor but by a combination of factors. Known, proven facts are few. Scientists are working in laboratories all over the world to make the mouth divulge a few more secrets. Research workers agree that there is a relationship between eating candy or excessive amounts of sugar and the tooth decay which they call caries. You will be wise to use sparingly candy, jelly, pastry, refined sugar and highly sweetened foods. Foods rich in carbohydrates produce conditions favorable to growth of acid-forming bacteria. Acid-forming bacteria initiate decay.

Only 1 per cent of adults have caries free teeth.

But you know a lot of people who never go to a dentist? They take care of their teeth at home? Tell them to their teeth that home care can never be depended on to keep teeth healthy! It does not even guarantee keeping them clean, for only a dentist can remove calculus completely, even *(Continued on page 443)*



Keystone View Company

X-ray pictures and other modern aids in diagnosis may reveal disease in teeth which are neither loose nor painful. Routine examinations may reveal danger signs which will point the way to disease prevention. Examinations may also provide the clue to other symptoms.

How to Choose Your Doctor

***The best way to judge a doctor is the way doctors judge each other; standards set by the profession are the best yardstick of professional competence, says* GREER WILLIAMS**

SOME TIME in every one's life, usually several times, such a change occurs in the way he looks, feels, and acts that the first thought of every one concerned is "Get a Doctor!"

The first step is to get rid of some alarming condition in the body. It may or may not involve aches and pains. But whatever is wrong, the sufferer wants to feel well again. The worse he feels, the more he wants a doctor. He will entrust the doctor he calls with the responsibility of restoring his health, possibly saving his life.

The medical profession has set high standards for its members. If some of them are inferior, the fault lies no more with the profession than with the people who elect the legislators who set standards of licensure. The question then is this:

"How can I get a good doctor?"

Obviously all those with "M.D.'s" cannot be judged by the nobility of the profession—which is dedicated to the science of healing and the service of the sick—but each must be judged by what *he* is in his profession as an individual.

The standards by which a physician can be measured are furnished by the medical profession. *The way to judge a doctor is the way doctors judge each other.* It is severe.

Let us first consider what we have a right to expect from a man who assumes the responsibility for health and disease. A noted specialist told me that he demands three things of his fellow physicians and surgeons in this order:

1. *Honesty.* Faith in one's doctor is often more important to recovery than the treatment he prescribes, but it is false security if the physician is dishonest in his claims, intent, diagnosis, treatment or fees.

This specialist was inclined to rate doctors as more honest than most people because higher education, the inviolability of natural laws and the gravity of life and death tend to induce moral integrity in them.

2. *Service.* Careful examinations take time. You want a doctor who will give you enough attention to leave the smallest possible likelihood that he has missed some significant sign or symptoms, as well as to relieve your psychologic anxieties.

3. *Knowledge.* When you see a doctor you wish everything that is known in medical science about the detection, prevention and cure of your ailment to be brought to bear on your case. Some might place knowledge first, but the specialist put it third because you cannot get the benefit of existing knowledge unless the doctor is honest (keeps within the limits of scientific knowledge) and gives you service (allows himself time to apply his knowledge).

I would add a fourth item to the list: *generosity.* While this is implicit in the humanitarian nature of medical care, I know of no quality more desired by the patient in his doctor. The basic problem of the cost of

medical care is economic, of course, but more patients would get what they *can* pay for if generosity, like honesty, did not suffer from selfishness.

How do you find the doctor who has honesty, service, knowledge and generosity?

The most common way, I suppose, is to ask a friend, but it's not the right way. If you ask three or four friends and they all recommend the same doctor, that man has something in his favor. But the average layman's advice is not worth much. He went to a certain doctor, and he got well and was not overcharged apparently. A doctor can be judged by his recoveries or deaths only if he has an unusually low number of the first and an unusually high number of the second.

Of course, in an emergency you just take any doctor. You look in the classified directory, call the police or a hospital, or perhaps you just pick up the telephone and ask the switchboard operator for a doctor.

Rather than taking a chance of getting the worst doctor in an emergency, is it not better to inform oneself on the whereabouts of competent medical service before one needs it?

Find a doctor before you need him! That is the first rule. It is of especial importance to a family taking up new residence. Women and children are frequently in need of medical attention. Find your doctor while you have time to investigate him, and *be sure to investigate him.* That's the second rule.

You should investigate the man you want to become your doctor, using the standards by which the medical profession judges its members.

First there are the formal standards set by the American Medical Association which, with a membership of more than 120,000 of the 180,000 Americans licensed to practice medicine, is the No. 1 medical standard-setting organization. The American Medical Association, more than any other agency, must be credited with raising the quality of medical practice in this country. It has set high standards of education, training and experience for physicians. On the basis of its requirements, a patient has the right to ask his doctor if:

MEDICAL STANDARDS

1. He is a graduate of a recognized medical school. Such a school requires at least two years' college education and four years' medical education. Moreover, practically all its graduates have hospital internship.

2. He interned in a hospital approved by the Council on Medical Education and Hospitals of the American Medical Association.

3. He is licensed to practice by a State Medical Board. This is the absolute minimum of qualification.

4. He is a member of his County Medical Society.

5. He is a member of the staff of a hospital approved by the American Medical Association, the American Hospital Association and the American College of Surgeons, or is permitted to use the facilities of such a hospital.

That is the least you can ask of a general practitioner. The five points give him a passing grade in his profession. The fifth point is particularly important. Good hospitals try to get good doctors. There are some exceptions to all points except the license to practice. A good doctor *may* come from a poor medical school, but he needs a fine record to make up for the fact.

One cannot rely solely on American Medical Association or medical society membership to make a doctor competent or to keep him competent. Additional assurance of competence is present if:

ADDITIONAL QUALIFICATIONS

6. He is a member of a medical school faculty or represents his specialty on the staff of an approved hospital or clinic.

7. He has had postgraduate training, meaning he has been a resident physician or surgeon in a hospital after completing his internship or has returned to a medical school for study after having entered practice.

8. He is a member of special societies, that is, associations of specialists in the diseases which he treats. It is a distinctive achievement for a specialist to be certified by one of the boards (such as the American Board of Surgery) formed jointly by the special medical societies, the American College of Surgeons, and the American Medical Association to lead and to counsel in their particular fields.

Should a patient ask a doctor all these question when he walks into his office? Well, it would do no harm, even if it shocked the doctor! But this information may be obtained beforehand from either local or national medical directories, which are available in public libraries, newspaper offices, city health departments, hospitals and many doctors' offices. The information may also be obtained from the offices of the county medical society or the

Chicago headquarters of the American Medical Association.

Those are the formal standards. In addition, there are some informal standards which a person looking for a doctor can apply:

1. A good doctor does not advertise his name, specialty, methods, cures or low fees in any commercial way. Beware of him if his name appears frequently in any publications other than medical journals and texts, unless he is famous. One may even be skeptical of some who seem to be famous, since many carefully nurture among the laity an unjustified reputation for greatness. While the American Medical Association holds it unethical to advertise, a few low cost, nonprofit clinics which use educational advertising may be excepted. The doctor who boasts of low fees, however, is a doubtful fellow to whom one may apply the saying, "Nothing is so expensive as cheap medicine." He is worse if he solicits business among his patients on the basis of secret methods and cures. Every legitimate remedy is freely disseminated throughout the profession. It is unethical for a doctor to patent a medicine or apparatus to make a profit or to keep it from his fellows.

PERSONAL CONDUCT

2. A good doctor will conduct himself with dignity, sobriety and modesty before his patient. Be suspicious of the "doc" who talks too much while dealing with you professionally, whether about himself, you, or other doctors. Doctors will seldom criticize other doctors to laymen. When they find it necessary to warn the patient, they do so with a minimum of tactful words. Cross any doctor off your list who is known to be suggestive or indecent with women patients.

3. A good doctor does not always know exactly what's wrong with you. The biggest mistakes of diagnosis are made when the doctor is most certain. If he hesitates to state your ailment, he may be simply careful. If he suggests calling in a consultant or referring you to a specialist it is frequently a point in his favor. He is protecting you from his own limitations.

4. A good doctor keeps his person and his office clean and neat. Lots of shining equipment does not indicate a shining judgment in using it, however. Beware of doctors who specialize in office showmanship. Starchy attendants may disguise shabby service.

5. A good doctor keeps good case records. If there is any *one* thing by which you can measure him, it is this. If he makes notes on what you tell him and if he fills in all the blanks on your record card, he is helping himself remember. He is trying to avoid the *carelessness* which causes most medical mistakes. It is a sign of an orderly mind.

6. A good doctor is highly respected by other doctors; the greater the doctor, the more respect. They evaluate him on his medical judgment. This is the greatest of all criteria but the hardest to measure. Medical judgment gives you the benefit of the doctor's total experience at the decisive moment (another axiom: there is no substitute in medicine for experience). It is a matter of intelligence. The best way for a layman to obtain the benefit of excellent medical judgment is to inquire about for *the doctor's* doctor. Sick doctors are fiends for good medical care!

PROFESSIONAL CHARGES

7. A *good* doctor will not charge you too much. It has been my experience that the best doctors charge you the least, both in terms of how much you pay and how much you get for what you pay. Always ask the doctor his fees for any medical care he proposes to give you, and *always tell him your financial status!* Doctors' fees are more or less standardized according to the patient's income, and the best is not likely to charge you more than the worst for a given treatment or operation.

In the matter of fees in my experience the typical physician usually compromises. If you are poor he will take your case for an absolute minimum fee, and you can pay when you are able. This is something less than gratuitous, since it weighs you with a debt which is legally collectible. But after appealing to the physician's generosity, you have no alternative if he accepts your bad credit. You can only hope that, if you are unable to scrape up the money, he will write it off after sending you a few bills.

There are a few genuine humanitarians who will tell you to forget it. My own idea is that the greater the doctor, the bigger his heart. Indeed, if I were penniless and sick in a strange city tomorrow I would, if I had the strength left, seek a doctor with a reputation for greatness, make an appointment and tell him:

"Doctor, I have no money, but I am sick. I came to you because I want the best care. Will you give it to me?"

I think he would.

At the right hand of your doctor . . .

Your doctor looks upon the nurse as a valued associate. For it is she who carries out his instructions; keeps his patients comfortable and content; calmly meets emergencies that may occur in his absence; and reports all her observations to him.

This calls for qualities of mind and character far above the average—and these a young woman must possess before she is admitted to the study of nursing. Her professional training is long and exacting. It includes an understanding of the common medical diseases, and the nursing care they require. It comprehends pre-operative and post-operative care of surgical cases. She frequently takes specialized post-graduate work in such subjects as anesthesia, operating room technique and the care of children.

She is quite as proud of the R. N. granted to her by the state as your doctor is of the M. D. he earned at medical school. And well she may be. The special abilities which she brings to the care of the ill and the suffering are among medicine's most powerful aids.

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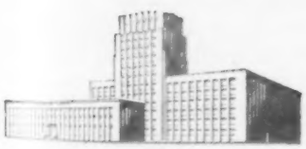

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KALAMAZOO, MICHIGAN

Fine Pharmaceuticals Since 1886

These members of the 4-H Club, a national organization of farm youth, were chosen health champions at the club Congress in Chicago last winter. They are (left to right) Lary Townsend, 18, Natchitoches, La.; Catherine Monsees, 16, Savannah, Ga.; Keith D. Koch, 16, Waverly, Ia.; E. Lucille Hall, 16, Arnett, Okla.; Lois Schreiter, 17, Greenville, Wis.

Five wealthy young people

IF GOOD HEALTH is one of life's most valued possessions, the young people pictured above are indeed wealthy. They should be an inspiration to every 'teen-age person in the country.

Young people in their 'teens are old enough to assume much of the responsibility for keeping themselves in good physical condition. They need parental help and guidance, but *self-reliance* is the goal.

In a 'teen-age program for keeping fit, the following are all-important:

1. ***Sufficient sleep.*** From 9 to 10 hours or more—particularly in the younger 'teens.

2. ***The right foods*** . . . in the right quantities . . . at regular hours. Rapidly growing youngsters need more food than at any other time of life—and a nice balance between foods which supply energy, and foods which build bone and body tissue. Girls in their late 'teens should especially beware of self-imposed reducing diets.

3. ***Exercise, recreation*** . . . preferably in the open air and sunshine. All 'teen-agers need regular exercise. Those who work should seek it after hours and week ends, especially if they are desk workers.

4. ***Cleanliness.*** A bath a day, if possible. Hands should be washed before each meal . . . teeth brushed twice a day. Proper habits of cleanliness will help youngsters keep more personally attractive.

Following these simple rules will go far toward keeping young people fit. Failure to observe them may invite such troubles as general feeling of fatigue and poor health, weak digestion, constipation, poor eyesight, poor teeth.

Wise 'teen-agers will have a yearly health examination—by the family physician, or the school physician. Teeth should be cleaned and examined by a dentist or dental clinic every six months, and defects corrected at once.

The 'teens should be the happiest, most carefree years of life. Good physical condition will help you enjoy them to the utmost. Metropolitan will send you a free booklet containing additional information about 'teen-age health. Ask for 62-Z, "Health, Happiness, and Long Life."

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New Facts About Halitosis

(Continued from page 421)

surgical short circuits of the gastro-intestinal tract confirmed the conclusion that the mouth and stomach were innocent, but that odors appeared on the breath within a predictable period after absorption of a substance into the small intestine. The next step was to trace the path of absorption and exhalation from the small intestine, where the odors disappeared, to the breath—where they consistently appeared again, hours later. Obviously, the doctors felt, there must be a "storehouse," and they suspected the liver. To prove it, they selected three patients suffering from cancer of the pancreas necessitating surgical drainage of the bile secreted by the liver. Administering garlic again in a new series of tests with these patients, they found a strong odor in the bile within an hour after injection. When the garlic was introduced directly into the colon, the odor also appeared in the bile after about an hour, and later on the breath. Colonic irrigation after the odor became noticeable in the bile failed to eliminate it or prevent its later appearance on the breath. Subsequent experiments with the volatile substances found in the excreta produced the characteristic odor of halitosis in precisely the same patterns. The basic guilt of the small intestine and liver was conclusively established.

From the liver to the breath, Drs. Crohn and Drosd reasoned, only one path was possible. Earlier research showing that garlic ingested by mothers before delivery could be detected on the breath of newborn infants had proved that odors can be circulated by the blood—the only possible means of transference in this instance. This much of their conclusion is hypothesis, but the doctors are confident that the odor of volatile matter absorbed in the small intestine is only partly excreted in the bile; most of it is picked up by the circulating blood, which in turn gives it up in traversing the small air cells of the lungs, whence it is exhaled on the breath.

The frequent occurrence of halitosis in ulcer patients who are on a milk diet—rich in odorous fats—and its disappearance when fats are removed from the diet are recognized clinical phenomena: proof, say the doctors, that their hypothesis is correct.

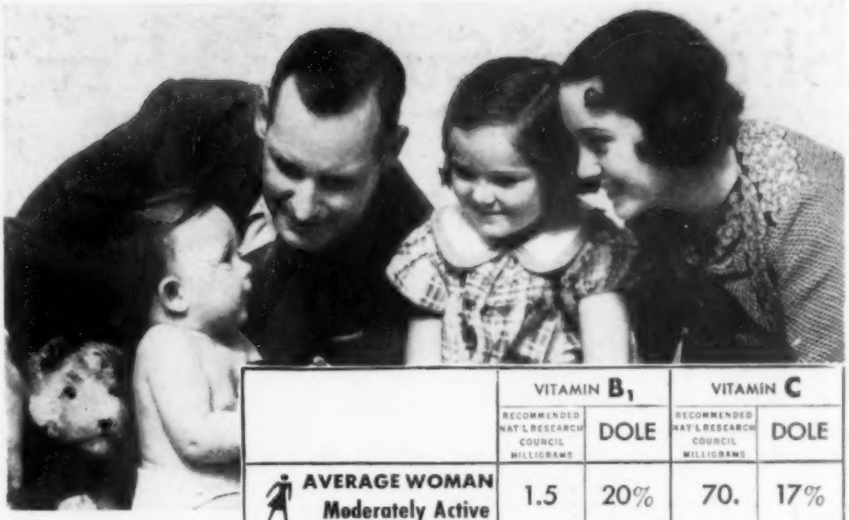
To eliminate halitosis, Drs. Crohn and Drosd recommend a diet low in fat content—with emphasis on cereals, eggs and lean meat. In persistent cases, "direct attack" on the liver or small intestine may be necessary, since these are the chief sites of the disorder. Constipation and colonic irrigation can be forgotten, as far as their effect on halitosis is concerned. Mouthwash never provides anything more than temporary concealment of an unpleasant breath, lasting from twenty minutes to an hour, nor will stomach pills relieve the symptoms of a malady which originates elsewhere. Perennial bridesmaids and unsuccessful salesmen who suspect the worst should put their laxatives, antiseptics and tablets back on the shelf—and watch their diets!

ARMY ORGANIZES PLASTIC SURGERY SERVICE

There will be fewer facial disfigurements from face and jaw injuries in this war than occurred in the early part of the last world war. A special program has been organized by the Army Medical Department which provides for special care for such injuries in the advance zone of operations, Leigh C. Fairbank, Brigadier General and Assistant to the Surgeon General, United States Army, Washington, D. C., reports in *War Medicine*.

It no longer will be necessary for such casualties to be transported to large hospitals far to the rear of the front line before receiving any of the special care such types of wounds require. All medical personnel, from that of the battalion aid station to the general hospitals far to the rear of the combat zone, are being given special training in the care of such wounds.

As General Fairbank points out, "New developments in restorative aspects of surgical prosthesis [replacement of an absent part by an artificial one] and dental repair afford possibilities today which far surpass the facilities available in past years."



For Mother . . . Father . . . and the Children . . . Dole Hawaiian Pineapple Juice is a good source of vitamins B_1 and C

Locate the members of your family in this chart. You'll see how much of their daily allowances of vitamins B_1 and C can be supplied by a 6-oz. glass of Dole Pineapple Juice.

The percentages in these charts are based upon the vitamin standards in the new "Dietary Yardstick" developed by the Committee on Food and Nutrition of the National Research Council.

	VITAMIN B_1		VITAMIN C	
	RECOMMENDED NAT'L RESEARCH COUNCIL MILLIGRAMS	DOLE	RECOMMENDED NAT'L RESEARCH COUNCIL MILLIGRAMS	DOLE
AVERAGE WOMAN Moderately Active	1.5	20%	70.	17%
Very Active	1.8	17%	70.	17%
Sedentary	1.2	25%	70.	17%
Pregnancy	1.8	17%	100.	12%
Nursing Mothers	2.3	13%	150.	8%
AVERAGE MAN Moderately Active	1.8	17%	75.	16%
Very Active	2.3	13%	75.	16%
Sedentary	1.5	20%	75.	16%
CHILDREN 3 Years	.6	50%	35.	34%
4-6 Years	.8	38%	50.	24%
7-9 Years	1.0	33%	60.	20%
10-12 Years	1.2	25%	75.	16%
BOYS 13-15 Years	1.6	19%	90.	13%
16-20 Years	2.0	15%	100.	12%
GIRLS 13-15 Years	1.4	22%	80.	15%
16-20 Years	1.2	25%	80.	15%

DOLE
Hawaiian Pineapple Products
FROM HAWAII, U. S. A.

Dole Hawaiian Pineapples are also packed in these pleasing ways . . . Sliced, Crushed, Tidbits, and "Gems." All are a good source of vitamins B_1 and C, and contain some vitamin A, calcium, and other minerals.

Short on Sugar? Try Syrups!

The necessity for conserving sugar makes familiarity with syrups and their use a "must" in most families. DORIS McCRAY presents useful facts and suggestions

IN MAKING THE CHANGE from sugar to syrups, the first difference we notice is in their water content, which varies from 25 per cent water in molasses to 35 per cent in maple syrup, in contrast to 0.1 per cent in white sugar.

For table use, syrups are easy to pour from the pitcher. But in cooking, the high moisture content alone will upset the baker's and chef's formulas. Lower temperatures are required in baking. A peculiar flavor may develop in boiling.

One who pours syrup into a favorite batter is apt to have a most amazing cake, gummy and sticky, possessed of compactness resembling putty, a strong "browned" odor and a top crust reminiscent of a volcanic eruption, as if the cake rose suddenly but settled back for lack of any structure to hold it high. One is faced with the necessity of following revised directions to fit each kind of syrup, with a reason for the procedure not always clearly understood.

SYRUPS FURNISH FINE FLAVOR

When not altered in the cooking, syrups are prized for their distinctive flavors. White corn syrup has a delicate, bland flavor that blends particularly well with fruits. Maple syrup has a volatile flavor that escapes in cooking. Sorghum flavor blends with apples and biscuits. Molasses will flavor cookies inimitably. Honey makes cake that becomes moist and mellow.

A strong, distinctive flavor is associated with higher mineral content. An advantage is found in the mineral content of some syrups as compared with white sugar, which furnishes no minerals at all.

We are wise to choose those foods that furnish minerals needed by the body in preference to highly refined foods which furnish no minerals at all. One nutritional authority states that "In general, the proper place of sugar in the food supplies and eating habits is not in such concentrated forms as candy, nor in the indiscriminate and excessive sweetening of all kinds of foods, but rather as a preservative and flavor to facilitate the introduction into the dietary of larger amounts of the fruit and the milk, the importance of which to health has been increasingly emphasized with each year's progress in our knowledge of nutrition."

HOW SWEET IS SUGAR?

While moisture content and minerals are accurately measured, relative sweetness is detected only by taste. This varies according to whether the tongue is dry or moist, what part of the tongue the sample is placed on, the temperature of the sugar or syrup and the fatigue of the sense of taste. Some tasters can detect sweetness in lower concentrations than others. There is disagreement among the experts, hence there are several sets of figures for comparative sweetness. Here is one of them: sucrose, 100; dextrose, 75; levulose, 173; maltose, 50 and lactose, 28.

Sucrose, as we know, is cane or beet sugar, our ordinary white sugar in the sugar bowl. It is always assigned a value of 100 when such comparisons are made. Lactose is the sugar in milk; one of its uses is for infant feeding. Levulose, or fructose (fruits sugar) is widely distributed in natural foods such as fruits. It is conceded by all to be sweeter than sucrose, but there is no agreement as to how much sweeter. Dextrose is known to the baker and confectioner as a fine, white crystalline sugar, or its solution, obtained from corn. It is also found in natural foods.

Honey contains nearly equal parts of dextrose and levulose. When it crystallizes, the greater part of the levulose is in the syrup, and the dextrose is in the crystals. Maltose is an intermediate product obtained when corn syrup is made from corn. Maltose is prepared commercially from starch by an enzyme; it is also found in germinating cereals. Corn syrup contains both maltose and dextrose.

In order to get the greatest sweetness from a sugar, have it completely dissolved, as in a syrup, and served at room temperature or slightly above. A custard tastes sweeter when it is warm than when it is chilled or frozen.

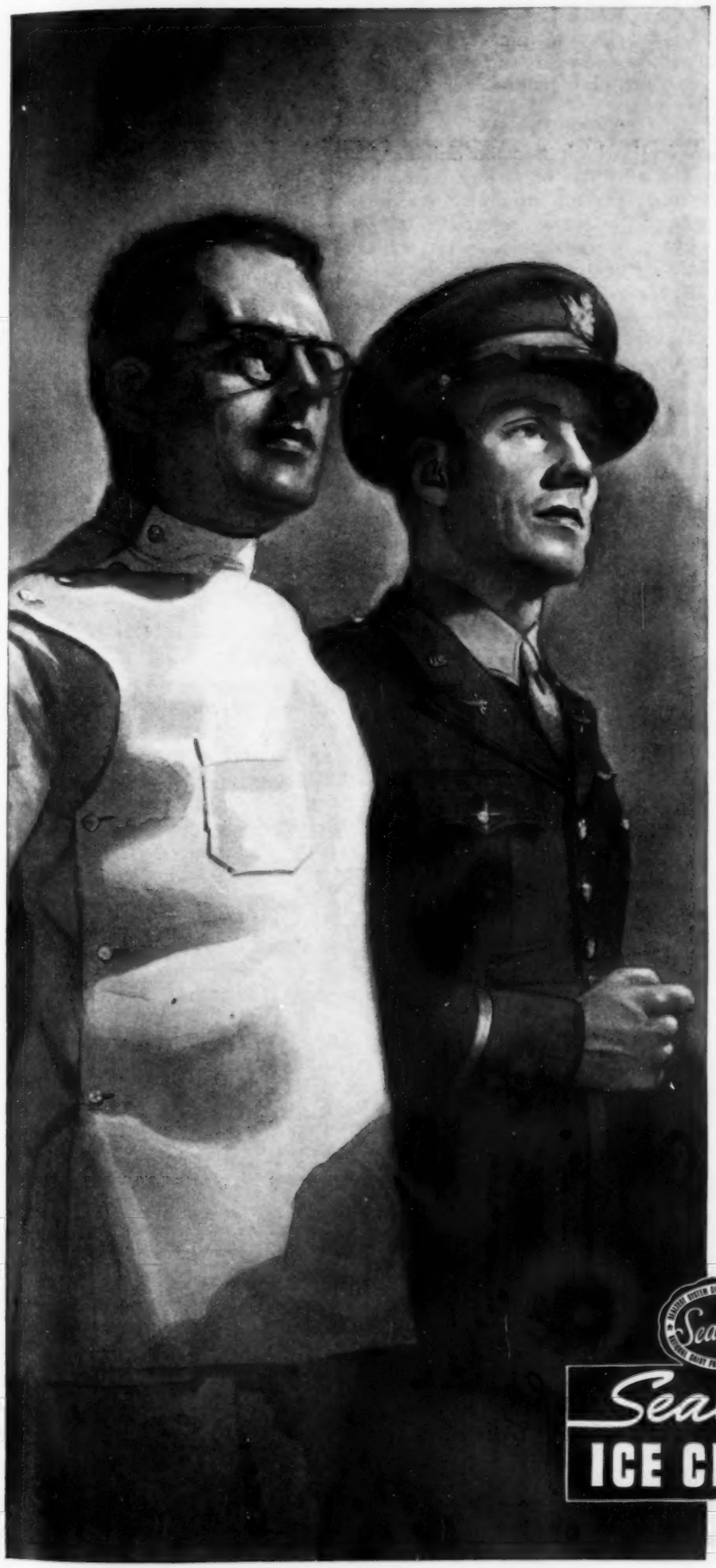
SUGAR IS FOUND IN MANY FOODS

Practically every food, even meat, contains some sugar. Dextrose often constitutes 20 per cent of the total weight, or more than half the solid matter, in grapes. It is also found in sweet corn, onions and unripe potatoes. Young corn and peas contain sugar which is transformed to starch as the seeds mature. Levulose occurs, with dextrose, in plant juices, fruits and honey. Starch found in unripe apples and bananas is changed to sugar as the fruits ripen.

Fruits for drying may be allowed to ripen until the sugar content is so high that no added sugar is wanted. But fruits for canning or shipping must be harvested while still firm enough to handle, hence they need added sugar to appeal to popular taste.

Prunes, dried peaches, dried apples and pears, as well as raisins and dates, all have a high natural sugar content and sweet flavor, so that they may be prepared for the table without any added sugar or other sweetening. In fact, they may be added to tart fruits as a sweetener. Raisins may be added in cooking berries. The juice of dried or canned peaches is an excellent sweetener for lemonade, although it alters the flavor.

Fresh orange juice needs no added sugar, since the fruit is allowed to ripen to a definitely high sugar content on the trees. Orange



MOBILIZED

for your protection

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juice may be used to sweeten lemonade. But if you want to sweeten it without covering up the lemon flavor, use plain white corn syrup.

COOKING APPLES

A fruit which may be enhanced by the addition of strong flavored syrup, rich in minerals, is the apple. Unless a sweet variety, fully ripened, is available, you want some sweetening. Considerable water may be added to fruit, but soda should never be added to tart fruit in order to save on sugar, because soda is destructive of vitamins.

For the greatest sweetening effect, cook the fruit first, then remove it from the fire. Add the sweetening, cover and let stand. A small amount of granulated sugar is said to "point up" the flavor. Sorghum, sorghum-flavored corn syrup, molasses or other syrup may be used.

PUDDING AND PIE

You may feel that desserts are merely for pleasure, but they have some nutrition value. A sweet dessert at the end of a meal gives a feeling of satisfaction or satiation. A small amount of sugar or syrup may be used to sweeten a large amount of other ingredients. Valuable food may be included, such as milk, eggs or fruit juice.

Syrup may be substituted for sugar, cup for cup, although the sweetness may not seem as great. Select the syrup according to the desired flavor. Additional thickening may be needed in a pie filling. When a tested recipe is not available, cook the pie filling thoroughly, cool to room temperature, observe its consistency and thicken more if necessary. Pour into a pastry shell and cover with strips of pastry. Bake in a fully preheated, hot oven long enough to bake the pastry, the filling having been already cooked fully. Serve "pie filling" or pudding in sauce dishes, and the consistency may be softer.

CUSTARD

Honey, corn syrup or the other syrups may be substituted for sugar in baked custard. The resultant flavor is not the same, but it is delicious. In a custard stirred and cooked in a double boiler, use some flour, one tablespoon (level) to each cup of milk. It makes the custard slightly thicker and less apt to curdle.

COOKIES

Find recipes which call for syrup and use the kind specified. Cake flour makes a more tender cooky than bread flour. Follow the usual precautions for making good cookies. Be sure that the oven is fully preheated for each batch. Bake only one sheet of cookies at a time. A lower temperature is required with molasses, chocolate or raisins in cookies. Bran is especially good in molasses cookies, because it gives them an interesting texture and appetizing appearance.

CAKES

Use only recipes that have been tested and use the kind of syrup called for. Use cake flour. Mix as directed. Control the oven temperature carefully. Be especially careful to bake cup cakes or layers if directed, since the mixture may not be satisfactory in a loaf.

CAKE FROSTINGS

Frostings cannot be made with syrups, because of their high percentage of noncrystallizing sugars. If honey is boiled with hard water for fondant, add one half teaspoon of lemon juice to keep it from turning dark and developing a strong flavor. You can sprinkle a little sugar and chopped nuts over the top of a cake and brown lightly. You may provide a custard or thickened fruit juice made entirely of syrup or meringue.

SYRUPS ARE NOT INTERCHANGEABLE

In baking formulas or cooking recipes, the syrups are not interchangeable, because they vary widely in moisture content and in percentage of noncrystallizing sugar, also in total solids and acidity. All these factors make a great deal of difference in cooking time, baking temperature and the amount of soda or lemon juice to be added.

Find a satisfactory formula and follow it exactly. Many fine results are possible with syrups.

WHITE CUP CAKES

½ cup butter
1 cup white corn syrup
¼ teaspoon salt
2 cups cake flour
3 teaspoons baking powder
3 large eggwhites
1 teaspoon vanilla

Cream the butter until fluffy; add the corn syrup gradually while beating. Add sifted dry ingredients and mix well. Beat egg whites until stiff but not dry and fold into the batter carefully. Bake in muffin pans about 15 minutes at 375 F. The cake is not sweet, but texture is excellent.

HONEY MERINGUE

1 egg white
⅛ teaspoon salt
¼ cup strained honey

Put ingredients in a bowl and beat until peaks of meringue stand up stiff. Spread on cakes before serving.

CHERRY PIE

3 cups cooked cherries (drained from juice)
3 cups cooked cherry juice
Few grains salt
½ cup cornstarch
2 cups strained honey
¼ cup granulated sugar
½ cup water
1 teaspoon butter
2 drops red coloring

Sift cornstarch with sugar, add water to make a smooth paste. Add salt, cherry juice and cherries. Stir and cook until completely thickened. Add remaining ingredients. Let cool to room temperature. Line a pie plate with pastry. Add the filling. Cover with strips of pastry. Preheat the oven fully to 550 degrees F. Turn the heat regulator back to 450 degrees F. and bake about 15 to 20 minutes until the pastry is baked but the filling does not boil up and run out.

MOLASSES COOKIES

1 cup dark molasses
½ cup shortening
3¾ cups cake flour
1 teaspoon ginger
½ teaspoon salt
1 tablespoon milk
1 teaspoon soda

Warm the molasses, add shortening and beat until smooth. Add part of the flour and mix well. Dissolve the soda in the milk and add it to the batter. Then add remaining flour and mix smooth. Roll dough thin and cut cookies. Bake on a greased baking sheet. Bake at 350 degrees F. about 10 minutes.

"More than ever before— bread deserves to be called the Staff of Life"

Editorial in the Journal of the American Medical Association, April 4, 1942.

The important subject of enriched bread was thoroughly discussed in the editorial quoted above... comparing regular white bread and the new enriched bread.

Here are some of the significant facts that are stressed in this leading medical journal:

"... a slice of white bread will have about 0.02 mg. of thiamine, a slice of enriched bread will have about 0.07 mg." (*over three times as much thiamine*).

"Of niacin the amounts will be in each slice 0.2 and 0.4" (*twice as much niacin*).

"... enriched bread may now safely be utilized to supply as much as 40 per cent of the calories of the normal diet."

And the editorial concludes, *"Consumers who buy white bread should demand enriched bread."*

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Wartime First Aid

(*Continued from page 415*)

A person who has a head injury, even a slight one, must be seen by a physician as soon as possible. In the meantime the first aider should keep the victim warm and quiet, apply a sterile compress to a scalp wound if there is one and to the ears if there is a discharge.

Internal injuries, frequent in this war of bombs, are dangerous and severe. A physician reporting from England recently said that often there is only a small wound on the surface, but extensive disruption beneath. All the first aid helper can do until the doctor comes is to keep the injured one warm, prop him up if the injury is in the chest or head or keep him lying down if it is in the abdomen. He must be taken to the hospital on a stretcher.

Worst of all injuries to confront a novice, perhaps, is injury to the face. Although disfigurement of the face is gruesome, it is not so dangerous as many other injuries. The person with the injured face should be turned on his face so that blood will not run into the nose and mouth. Bandages or compresses should be applied to the wound. If the jaw is broken, the tongue may fall back in the mouth and obstruct the air passages. The person caring for the casualty must watch for this, pull the tongue forward and apply a bandage to the chin according to special instructions taught in the first aid class.

What to do to control hemorrhage is one of the vital lessons to be learned by those who are likely to be caught in a disaster. With splintered glass flying in all directions, there may be cut arteries. You can identify arterial bleeding by the spurting of blood with each beat of the heart. Most people think first of using a tourniquet as a means of stopping the bleeding from an artery. Actually, a tourniquet is rarely necessary. First aid instructors constantly warn that the tourniquet is dangerous unless it is loosened every fifteen minutes. A pad over the wound, a firm bandage combined with elevation of the injured limb will nearly always stop bleeding, they advise.

For quick control of a hemorrhage until a tourniquet or dressing can be applied, the skilled first aider knows certain points at which arteries lie so close to bones that pressure with the fingers will stop bleeding. These the novice will learn from study of diagrams with the aid of the instructor. Pressure is applied as follows:

Bleeding from the scalp and forehead: pressure just in front of the opening of the ear on the side nearer the bleeding.

Bleeding from the face below the eyebrows: pressure against the side of the lower jaw just in front of the angle of the jawbone on the bleeding side.

Bleeding from the neck or cut throat: pressure with the fingertips on the neck beside the windpipe on the bleeding side and with the thumb behind the neck, pressure toward the backbone with ball of fingers.

Bleeding from shoulder or armpit: tip the head toward the shoulder on the injured side and press down with the thumb at the side of the neck just behind the collar bone.

Bleeding from the arm: press with fingers on the inner side of the arm just below the armpit.

Bleeding from the leg: put victim on his back and press downward with straight arm pressing the heel of the hand into the middle of the groin.

Fire is an important element of strategy in this war. The enemy showers incendiary bombs by the thousands not only for indiscriminate destruction, but also to give him light by which to bomb special objectives. Besides fragments of exploding bombs, there are exposed electric wires, brands from burning buildings and dangerous chemicals to cause all degrees and types of burns.

If a doctor is immediately available, all the first aider does is to apply a sterile dressing over the wound without removing clothing, wrap the victim in a blanket and call the doctor. Persons with burns may need treatment for shock.

If a doctor is not available, something must be done to relieve pain. Cut clothing away from the burn, but avoid tearing or pulling. Apply baking soda solution on a gauze compress, cover the burn, bandage lightly, wrap the victim in blankets and see that he is transported immediately to the hospital.

One big warning is given to those who must handle a person with burns: Never under any circumstances put any ointment, salve or other greasy substance on a burn! These things only make treatment more difficult for the doctor. He has to remove them before he can do anything for the burn. They are not easy to remove because they will not dissolve in water. Valuable time is lost, and suffering is prolonged.

Phosphorus shells or bombs sprinkle particles of phosphorus on the skin. As you know, phosphorus burns in air, and therefore the particles keep on burning where they strike the skin, causing deep burns that heal slowly. Immerse the wound in hot water, which melts the phosphorus so that it may be wiped out of the burn with gauze. If you have to use cold water, the particles have to be picked out under water. The cold water does not melt the phosphorus, and the particles will ignite again when the air strikes them.

Another way to keep phosphorus from burning is to cover it with copper sulfate solution if it is available. The solution coats the phosphorus with copper and stops the burning. Then the particles can be lifted out. Once the phosphorus is removed, the burn can be treated.

Fractures are many and complicated, and directions for first aid are extensive and detailed. Only a sketch of what you will have to learn can be given here.

First you must learn to recognize a fracture. These are the signs as given in the "Handbook of First Aid" prepared by the Office of Civilian Defense in cooperation with the Red Cross for the use of civilian defense workers after they have taken the course:

1. Pain and tenderness.
2. Partial or complete loss of use.
3. Deformity—may be pronounced or very slight.

(*Continued on page 454*)

Meat . . .

and this All-Important Summer of '42

Never before has a summer meant so much in the life of this nation. Never before have the efforts of each individual person been so closely linked with the tremendous task at hand. And never before has the health of our nation assumed so important a position as it does today.

Good health and nutrition are directly related; good health is impossible when nutrition is permitted to fall below par. This is the reason why the government of the United States lays such stress upon the importance of eating the right foods.

Meat occupies a prominent position in any well-rounded adequate diet. It provides an abundance of high quality proteins needed by the body the year round, summer as well as winter. It also supplies important amounts of B vitamins and the essential minerals iron, copper, and phosphorus. In your meal planning this summer, remember that the nutritional needs of your family are not changed because of the seasons; adequate nutrition, providing all of the essential nutrients in ample amounts, must be maintained at all times.

ACCEPTED AMERICAN MEDICAL ASSN Council on Foods

The Seal of Acceptance denotes that the statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

American Meat Institute
CHICAGO

Dental Defects and Nutrition

By LIEUT. COL. AMOS R. KOONTZ

SELECTIVE SERVICE examinations have focused the attention of the country on the teeth of men of military age. Dental defects have furnished the largest cause of rejection for enlistment in the Army during the present emergency.

Of 900,000 men rejected for physical reasons, 188,000, or 20.9 per cent, were rejected because of dental defects. That dental defects furnish the cause for more rejections than any other single condition is not surprising when one considers that dental caries is said to be the most prevalent of all diseases. I was interested in seeing whether the state of nutrition of the registrants concerned had any causal relation to the dental defects.

Investigation shows that the cause of dental caries is not well understood. The American Dental Association is conducting investigations with regard to this. What causes this condition to be so widespread in the teeth of some people, and so nearly absent in those of others? There are a number of secondary factors, all of which are believed to play a part, as follows:

(1) Diet—by influencing the bacterial flora of the mouth; and also possibly by failure to contain certain vitamins, or enough of calcium and phosphorus. We do know, however, that many people on a well balanced diet suffer with dental caries. On the other hand, the Korean people who live on a rather limited diet are said to have a very low incidence of dental caries until they start acting as cooks or servants in British or American homes and eating European or American food, at which time their dental troubles begin. It has also been pointed out that dental caries is prevalent in South Africa, where there is plenty of sunshine to furnish vitamin D, which is considered important in playing a part in the prevention of dental caries.

(2) Dental caries is on the whole less prevalent in primitive people than in highly civilized people, but is far from being entirely absent in them. Various factors in our modern life have been considered as causes for the increase in dental caries among civilized people. Such things as our type of lodging, our clothing and the nervous strain under which we live have all been blamed. Also it has been stated that vitamin B has been removed in the processing of many of our foods, thus leaving the teeth without protection against sugars.

(3) The general health of a person is not necessarily an index of his susceptibility to dental caries. Many people in excellent physical condition have widespread dental caries, and others much below par physically have excellent teeth.

(4) There are well known regional differences in the extent of dental caries. A dentist in one county in the Texas panhandle examined at random the teeth of forty-three native born resident persons in the county, whose ages ranged from two years to beyond middle age, and found not a single decayed tooth or filling! The county is located on a high plain, the topsoil of which is a dark, sandy loam, below which there is clay containing a high percentage of calcium carbonate. The wheat produced in the county has a high protein content, and the flour produced from the wheat has about six times as much phosphorus as the average flour. The locally produced milk contains 30 per cent more phosphorus than the average. It is presumed that all vegetables, dairy and meat products are correspondingly high in elements necessary to tooth building. The water has a high content of fluorine and calcium.

In 1918 the men examined for the service showed a widespread regional variation in the percentage rejected for dental defects in the various states of the union, ranging as high as 102.85 per thousand of those examined in Vermont to a low of 2.9 per thousand in Arkansas. The figures from the Civil War show that the highest rejection rate for dental defects was also in the New England states. Figures for dental caries in school children show the same regional variations as the Army figures.

(5) Acid-containing candies and medicines apparently predispose to caries by direct decalcification.

(6) Heredity undoubtedly plays an important role in the susceptibility to this condition. The evidence for this is unmistakable, as can readily be shown by the study of any considerable number of families. Often people living under conditions varying in no manner except in the factor of heredity will show a wide variation in their susceptibility to dental caries.

Considering the foregoing, it seemed rather useless to try to link undernutrition with dental caries in Selective Service registrants. However, it was felt worthwhile to study 100 men who had been rejected because of dental defects alone in order to determine their state of nutrition.

These men were taken at random from white registrants rejected because of dental defects, and only 10 of the 100 were shown to be below the minimum weight as given in the Army weight table. Even these would have been accepted by the Army as far as their weight alone was concerned. Then, too, it is impossible to say whether the undernutrition in these cases might not have been due to dental caries, rather than that the undernutrition caused the dental deterioration.

True, such a small series of cases presents no conclusive evidence as to the relationship between dental caries and malnutrition. However, in view of other evidence presented against a causal relationship between the two, the evidence disclosed by the study of these few cases is believed to be significant.

Furthermore, local board members and local board doctors have consistently complained about having to reject because of insufficient teeth men who were all excellently nourished and actively engaged in industrial pursuits requiring hard labor.

Now that we are at war, the regulations may be changed so that most of the men rejected because of dental defects alone may be rehabilitated and taken into the Army.

Advice to the Dentally Feeble

(Continued from page 429)

from an exposed surface. There are dozens of ideas in general circulation on care of the teeth, but the number of *facts*, backed up by scientific studies, is regrettably small. You can't keep your teeth in your head with ideas.

The idea that a clean tooth never decays, for example, that this or that pleasant dentifrice will safeguard your molars from those creeping crypts is false. The modern human being needs to brush his teeth daily to remove accumulations of soft and sticky food. But brushing will not prevent decay, just as bathing the body surfaces will not prevent disease. Both are cleanly habits which may reduce the likelihood of infection. That is their sole value.

Perhaps you have had the idea that filling small cavities tears down the tooth and weakens it, if the holes are not big enough to ache. Actually, cavities that are not filled weaken the teeth. If small cavities are properly prepared and filled the whole progress of decay is halted. Don't wait for toothache! Some of the troubles most in need of attention do not warn by aching. Teeth may be infected without your knowledge. There may be no pain or discomfort. Teeth that do not hurt may be hopelessly diseased and a menace to health and life.

Breaks in teeth, whether from injury or from little-understood action of digestive juices in the mouth, just have to be plugged. Every six months is not too often to drop around and ask your dentist if you need repairs. Teeth can be saved by early and frequent dental care—and hurting teeth can often be placed in healthy condition. The reason for going to a dentist is to save teeth. He'll care for your caries!

You may have been eating foods which you believe grownups should eat to build and maintain strong teeth. A balanced diet is important to your general health and nutrition, but research has not yet been able to pin down the part that diet plays in control of dental decay. Its role, once the growing and developing years have passed, is not understood. Most experts agree that what you eat after nine years of age has little effect on your tooth structure. Of course, many believe that overuse of carbohydrates will make teeth more liable to decay. But decay begins on the outer surface of a tooth. It does not bore from within.

Then there is the old idea of personal attractiveness—beauty—charm! Poor teeth are something to hang an inferiority complex on, all right, if you are thinking about one. They are a nice preface to a nervous breakdown, too. Just keep on hand a mouth full of decayed abscessed or grossly irregular teeth and you are bound not to enjoy life too much. You won't be sought as a close companion by friends and neighbors. Business associates can't brush your teeth, but you'd be surprised what they can do on a general brush-off! The idea of the importance of white, strong, healthy teeth to individual ego elevation is sound enough. It has been the key with which promoters of commercial products have turned on their best selling campaigns. This is a surefire way to make people spend more money than they should on the home care of the teeth.

But listen: There is no such thing as a harmless bleach or whitener. Nothing should be done to attempt to change the natural color of the teeth. No safe dentifrice will do this. No dentifrice will change the chemistry of the mouth from acid to alkaline or from alkaline to acid. No dentifrice will cure bad breath or dental disease. No dentifrice will prevent dental decay.

The sole value of dentifrices—peppermint, wintergreen, cinnamon or clove—is to assist the toothbrush

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in cleaning the surfaces of the teeth. Brushing alone will not prevent dental caries, it is just one of the helps to use to develop a healthy mouth. There is no real difference in the cleaning power of tooth powder and tooth paste. The important thing is to use a dentifrice which does not contain harmful ingredients.

Mouthwashes serve no purpose other than the removal of debris. A bottle of mouthwash on the bathroom shelf will guarantee you, when you use it, nothing but a feeling of cleanliness and a taste of flavoring. Mouthwashes are classed as "cosmetics" by governmental agencies regulating medicines and drugs.

You should be responsible for carrying out your own program of dental care, but the most important part is to seek regular supervision by the dentist. If some one started you out when you were two and a half and you have kept on the routine ever since, you don't even have to be told. But if you have reached the point where you have to pick up the pieces, spend your money where it will do the most good. See a good dentist and have him plan a cost schedule so care of your teeth won't bite your budget. Remember to select your dentist on the basis of his ability. Unsatisfactory dental service may seriously affect your comfort, your health and even your life.

Pick a good dentist. You are the consumer, you know. People who use dental services regularly know that a top-notch dentist does not advertise. He doesn't sound off with a lot of claims before he looks at your teeth. He washes his hands with soap and water before he touches your mouth. He puts an individual cup where you can reach it. He sterilizes his instruments. He is clean about his person and about his equipment, and he protects you by wearing a clean work coat and using clean towels. You expect as much from a barber; be fussy about your dentist.

Don't go into a dentist's office and start telling him how to do things. When he gets to work, give him a chance. You probably have a specialty, too, whether it's diamond setting, carving figurines out of wood, cooking a steak over an open fire or tossing up a green salad. You don't want some one sprinkling advice on your special performance. Don't walk in and say "Here, pull it out!" Give the man time to check up on the condition of your teeth. Toothache is not always caused by decay. Hurting teeth may often be saved and placed in healthy condition, and on the contrary, teeth that do not hurt may be hopelessly diseased and a menace to health and life.

A good dentist makes full use of modern aids. You are seeking preventive dentistry. Preventive dentistry includes frequent cleaning of the teeth, the filling of small cavities and early recognition and treatment of infection of the gums. But it also includes exploring possibilities of future trouble.

Formerly, teeth were removed only if they were sore. By that time they were usually loose. Today, x-rays and other helps in diagnosis reveal diseases in teeth which do not ache and which are firm in the mouth. Routine examination of a person's mouth should include x-ray pictures which show each tooth from at least two different angles. If the dentist suspects that decay may be attacking the surfaces in between the teeth, x-ray will help him find out. X-ray pictures are shadow pictures. The shadows do not always show all the conditions present. The dentist doesn't take an x-ray picture, retire to the developing tray and come up with a diagnosis. The shadows have to be interpreted. Some dentists are better at interpreting than others. This means that they pick up clues faster. If a complicated condition is suspected, it may be necessary to take x-ray pictures of one tooth from several angles. Diseases of the soft tissues do not show up clearly in x-rays; but your dentist is trained to recognize danger signs.

Even the x-ray cannot tell the whole story. The examination and the case history given by the patient are important, too. Don't withhold helpful information. Don't sit back in your chair and defy the man who is working to help you to find something. Sometimes after a mouth injury, x-ray shadows are dark and may be mistaken for signs of infection. If the baby recently swung at you with his bottle or if you bumped your chin on the curb when you stepped from the new

car without running boards, tell the dentist.

If you are wearing dentures on one of your decks, don't laugh if the dentist advises x-rays of your entire mouth. It is just as important to have x-rays of the areas where teeth are not as where they are present. You have arthritis? Aches? Pains? Kidney trouble? These are some of the reasons why it is well to learn whether extraction of teeth has left a hidden threat to your good health. Untreated infection, whether your teeth are in or out, may continue to spread with no outward signs. The x-ray may light up such hidden menaces. Impairment of general health may be prevented as well as deformities of the mouth and face.

If teeth are impacted—if they have not come through the gums but are imbedded deep in the bone—the x-ray will help decide whether removal is indicated. Even when they are not infected, by exerting pressures against nerves impacted teeth sometimes cause neuralgia, severe headaches and occasionally insanity. Infecion is likely to occur when teeth are partially impacted. Removal of an impacted tooth is a complicated surgical operation requiring skill and experience.

If a tooth has to come out, your dentist is the one to advise you. Operations for the removal of teeth are not all alike. It is a simple matter to remove certain teeth, but when there are enlarged, curved roots surrounded by hardened bone the operation becomes difficult. To carry out such operations requires special training. Don't make the mistake of thinking you can select the anesthetic. The choice of any means of controlling pain should be left to the man who is to perform the operation. His knowledge and experience qualifies him to determine the type of operation and all related matters. Under certain conditions use of a local anesthetic might have serious consequences, for example. Again, some operations cannot be performed with as much care under a general anesthetic.

If you want to appear well, chew your food and speak normally, replace the teeth you lose. Otherwise, adjacent teeth may shift about, and spaces may occur between other nearby teeth. With this shifting, the supporting jawbone and gum structure may be injured. Gaping spaces alter the natural facial expression, too. The whole outline of your face may be remolded—and unhappily.

But false teeth are so dead white! You can have them jungle red if you want them. Dozens of artisans have full time jobs building teeth on instructions given them by dentists. Business competition helps here, too. They have spent years trying to outdo their rivals. Ask your dentist to show you a few things about a replacement job. Take plenty of time and have it done right. Don't expect to have a tooth pulled one day and another in its place the next. Sometimes that very thing can be done, but many times it is advisable to have the gum or the jawbone rested, healed and treated before teeth can be installed safely. Your dentist will know best. Use of artificial teeth or dentures is today quite usual. Many young people have dentures which defy detection even on close inspection.

Teeth are tools, and smart people know you need full personal equipment whether you are plain John Citizen, a soldier in the Army or a young man or woman in industry.

Delicious nut-like flavor—plus 3 Extra Benefits!

1. Post's 40% Bran Flakes provide enough bran to help prevent constipation due to lack of bulk in the diet.

2. They supply important nourishment of wheat . . . phosphorus for the teeth and bones . . . and iron for the blood.

3. Post's Bran Flakes also have precious Vitamin B_1 added—provide 50 U.S.P. Units per ounce, or 15% of an adult's minimum daily requirement.

Hand Hazards!

(*Continued from page 425*)

sticks it into the grinder with her bare hands, and before she knows it the tip of a finger has been taken off. In the meat market, the much more skillful and careful butcher would not think of using his hands to push meat into a grinder. He uses a stick of wood.

Another housewife may drop a glass tumbler on the floor, sweep up the fragments and dump them into the wastepaper basket. Later on she loses a letter or a grocery list and forgetting about the broken glass starts fishing around in the basket. Suddenly there is a flash of pain—a fragment of broken glass has given her a severe wound! When she goes to the doctor he warns her that glass in wastepaper baskets is one of the common causes of hand injuries.

One of the more ghastly sights a doctor encounters in his practice is that of a woman's hand which has been slit between two fingers by a sharp knife. And one of the customary stories he hears from such a victim is that she keeps her carving and paring knives in the same drawer with other kitchen utensils. A sharp carving knife became wedged with sharp edge upward between two other articles in the drawer. She fished around in the drawer after dark for something she had mislaid, and her hand struck the sharp, upturned blade. The most obvious precaution a housewife can take against such an accident is to keep sharp cutting knives separate from other implements, perhaps hung on a rack over the kitchen sink.

Seemingly tame and harmless is the housewife's practice of peeling fruit or potatoes without protecting the end of her thumb. While she is busy canning or preparing a meal she does not have the time to notice the tiny cuts made by the paring knife. She may get a dozen or more little breaks in her skin that provide wide-open portals of entry for dangerous bacteria! Most housewives escape the serious consequences of this practice, but doctors all too often are confronted with the problem of healing badly swollen thumbs and hands infected by the invading bacteria. A simple precaution would be to paste a little adhesive tape on the end of the thumb before using the paring knife.

Doors are often disastrous to hands. People have too little respect for the tremendous force exerted at the pivot edge of a door. A housewife may polish a door with a cloth while her hand rests near a hinge. She pushes the door shut and her finger is crushed. A surgeon who has developed a specialty of treating injured and infected hands tells a story of his neighbor who caught several fingers between two of the horizontal sections of a garage door of the type that operates vertically. With his fingers caught he could not move the door up or down. All he could do was scream for help.

Vacation time is an open season for serious hand injuries and infections. Men and women pioneering in the great outdoors find new types of jobs to which they are not accustomed. They use their hands for hammers, screwdrivers and pliers, ripping off finger nails, breaking bones or getting jagged splinters embedded in their skin. Blisters on tender hands may go unwashed and uncared for until some serious infection starts.

Cleaning fish sounds like a safe enough pastime for a vacationer, but many a vacation has been ruined by fish bones that knife their way deeply into the flesh. Because of the serious consequences of tularemia or rabbit fever and the great amount of publicity it has had, warnings regarding it would seem needless. But hunters still handle wild rabbits and other wild animals with their bare hands, either through ignorance or with superb confidence that the particular creatures *they* have caught or killed are not infected! The animals may not be infected and the hunters' hands may be free of cracks or cuts through which the disease may enter. But there is still a chance which does not have to be taken if perfectly intact rubber gloves are worn, and the gloves are cleaned thoroughly with soap and water before they are removed. Tularemia not only causes painful sores on the hands, but the infection travels into the lungs with serious complications.

In winter, frostbite may prove to be a grave danger to hands if it is not treated properly. Most people know that to plunge frostbitten hands into water that is too warm may cause serious damage. Excessive warmth decompresses the blood vessels too rapidly and may seriously damage the blood vessel walls. Too rapid defrosting may cause serious illness that requires weeks for recovery. People with advanced cases of hardening of the arteries should also take precautions against putting their hands in hot water, because the walls of the arteries may not be able to withstand rapid expansion.

Those who read this article no doubt have a peaceful turn of mind and would be horrified at any suggestion that they might be involved in a fist fight! Doctors, nevertheless, not infrequently have to deal with bad hand injuries and infections resulting from attempts to knock out the other fellow's front teeth! Policemen, in the course of maintaining law and order, are frequently victims of such encounters. When the fist is clenched and the back of the hand is taut, a collision with a couple of well embedded incisors may cut a deep gash in the tendons and cause several fibers to snap. The mouth may contain varieties of dangerous streptococci—or perhaps even syphilis germs—which find a fertile breeding ground in the hand. It is not rare for doctors to see hands badly bitten by human teeth, as well as those of animals, with consequences that are bizarre and painful.

Trivial hand injuries promptly and properly cared for by a physician should usually end in fairly prompt recovery. Therefore, it is most disconcerting to a doctor for people to wait too long before seeking medical or surgical care or to take care of themselves in cases that may later become serious. Never-

theless, medical men estimate that more than 95 per cent of the hand infections they see are those which have become serious because of undue delay. A delay of a few hours sometimes means the difference between a trivial wound and a serious infection or the loss of a hand or arm or possibly a life! Delay may require the doctor or surgeon to use all his ingenuity to save a hand or finger. The loss of even a thumb may mean as much as 75 per cent disability!

Some people have lesions on their hands for weeks, months and even years—sores that persistently refuse to heal. These may start from a small scratch or cut. The victims suffer in patient resignation without taking the trouble of consulting a doctor, who might find an immediate solution to the difficulty. It is obvious that most disabilities of the hands may be easily prevented through adequate protection and prompt medical and surgical attention by persons qualified to give it.

IMMERSION FOOT AND SHELTER FOOT

Two disorders, immersion foot and shelter foot, which are closely related to frostbite and trench foot have been produced by the present war, R. Greene reports in a recent issue of the English medical journal, *Lancet*. He says that shelter foot often was seen among shelter dwellers in London in 1940 and 1941 who had sat up all night without compensating rest in a horizontal position during the day. Immersion foot was encountered in persons who, after a shipwreck, spent a long time in water logged boats. In shelter foot the swelling is painless at first, he explains, and after while the swelling extends up the leg. The wooden bars of the deck chairs used by most of the victims exerted a prolonged pressure on certain blood vessels, causing a stagnation of the blood in the veins and increased permeability of the minute blood vessels known as the capillaries. He says that immersion foot is almost identical with trench foot and that its causes are the same; cold, heat after cold, dampness, stagnation of the blood in the veins, wind, lack of sufficient oxygen, nutritional deficiency and injury all may play a part.

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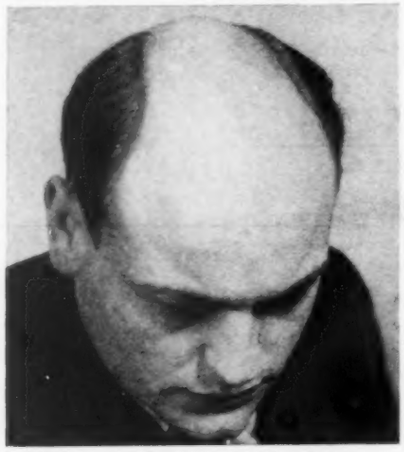

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QUESTIONS AND *Answers*

School Without Lunch

To the Editor:—The question of a single-session day or a double-session day has arisen in the schools of this community. Since the schools are not able to provide hot lunches for all pupils, since a majority of the pupils eat breakfast about 7 a. m., and since the daily schedule will require keeping the same pupils until 2 p. m., some take the position that this is too long a time for the children to go without food. Can you place me in touch with some one who can give me his professional opinion or cite some studies made on this subject?

L. F. C., South Carolina.

Answer.—After consultation with the staff of the Council on Foods and Nutrition of the American Medical Association and with pediatricians, we give the following reply to your question as to whether the interval from 7 a. m. to 2 p. m. is too long for children to go without food:

The interval between meals is to some extent a habit as far as adults are concerned. This is not so with children. They require in proportion to their size much larger quantities of food than adults. They use up a great deal more energy. At the same time, their stomachs are small, and they cannot eat large quantities of food. The emptying time of the stomach is two to three hours depending in part on individual variations and in part on the amount of fat in the diet; diets high in fat require a somewhat longer time for digesting in the stomach. It is apparent that an interval of more than seven hours between breakfast and lunch would be the occasion for sensations of hunger in most children, amounting to discomfort in some and possibly accompanied by faintness in others. If children get hungry they will find some means of eating—probably candy and similar things which can be carried in their pockets.

Since hot lunches can be served with the cooperation of women's groups in the community at small expense and without elaborate facilities, we believe it absolutely essential that if prolonged sessions are necessary, suitable provision be made for hot lunches.

It seems to us, however, that not only is the question of food to be considered, but the question of fatigue. Young children especially should not have a continuous school session without interruption or rest. They require intervals of relaxation and change of occupation.

Unless provision can be made for a suitable interruption for lunch and for feeding children a hot lunch or at least a hot dish, we could not look with favor on any proposal for a school schedule which would keep children without food from approximately 7 a. m. or even 8:30 a. m. to 2 p. m. This applies especially to younger children.

It has also been shown that industrial workers who have an early breakfast and lunch at about noon show better production records if there is an interval during the morning at which a light lunch, such as fruit, milk or a sandwich, can be consumed.

Still another consideration in your proposed long session is that children leaving school at 2 p. m. and proceeding home may be fed as late as 3 p. m., at a time when the rest of the family is not lunching. They are very likely to get a makeshift and inferior lunch at this off-schedule hour, or if they get a good lunch, their appetite for a normal dinner or supper may be impaired.

While you have not asked for a discussion of the educational factor, with which you are undoubtedly more familiar than we are, we believe that no educational advantage will be derived from prolonged sessions, since not even an adult can

concentrate continuously, and children very definitely cannot.

From all points of view, the proposed lengthy continuous morning session has little to recommend it and many disadvantages.

Memory in Old Age

To the Editor:—HYGEIA is the most valuable magazine I subscribe to. I read it from cover to cover and if I could remember one half of what I read, I would be well informed. However, I am losing my memory. Is there anything I can do about it? I was 73 years old last August. I am pretty well physically, and can do a good day of hard work, but I am unable to call names readily and often I can't recall names. A few hours after they are recalled, I have a struggle to recall them again. Is there anything I can do about it? I will appreciate your advice.

R. F., Oregon.

Answer.—It is perfectly natural that a man 73 years old should experience some decrease in his memory retention and some increase in the difficulty of voluntary recollection. The main thing to do about it is to take it with good grace and with a realization that it is an inevitable consequence of growing older. In itself it is not serious; forgetfulness at 73 is not pathological. To be distressed about it is.

Dreams

To the Editor:—We are studying physiology and would like to know the answer to this question: "Is one's brain working when one is dreaming?" Will you please write and tell us, as we are all anxious to know.

M. G. S., Wisconsin.

Answer.—The general answer to this question is "Yes." We cannot however fully understand dreams until we know more about consciousness and sleep. Our feeling of consciousness depends on the activity of nerve cells in the brain. This we know because if they are deprived of their blood supply or injured in many ways we lose consciousness. But the nerve cells of the brain, like all other cells of the body, must have periods of rest. Such a period of relative inactivity we call sleep. In sleep the brain cells are of course alive, and all

LOUISE: Tell me, Mary, do you know anything about those thingumajigs that many women use now instead of sanitary pads?

MARY: *I certainly do. I use Tampax myself and if you don't I'll give you credit for less intelligence than I thought you had.*

LOUISE: Well, of all things, Mary! You surprise me! I had regarded you as conservative about new ideas.

MARY: *Right you are Louise, but this new form of sanitary protection, Tampax, is a real boon to us women and I'd be stupid not to use it.*

LOUISE: Tell me, Mary, is it true Tampax doesn't show, that you are not conscious of wearing it and that it eliminates other nuisances that go with the wearing of external sanitary pads?

MARY: *It is all true, emphatically. It really seems too good to be true, but I now realize life can be worthwhile even at "those times" of the month!*

LOUISE: What started you on Tampax, Mary?

MARY: *I have a friend, Jeannette, a registered nurse whose word carries great weight with me. She said she uses Tampax and so do many other nurses . . . She emphasized what a lot it means to women from both the psychological and the physical standpoints . . . and now most of the girls in my office swear by Tampax!*

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their metabolic activities are going on at a low level. Their activity may be considerably increased before wakefulness appears, and we may even remember their activity, in which case we say we have had a dream. To prevent such activity we usually try to cut off all stimulation by going to sleep when it is dark and by choosing a quiet place. But even then stimuli reach us both from the surface of our body and from our internal organs. The nerve impulses produced reach the brain, and the course they follow there may give us conscious sensations. Often they travel pathways used previously, as when the dream repeats an old experience. On awakening we may have a memory of this activity during our sleep. It is a dream.

Children's Vocabularies

To the Editor:—What is the average number of words in the vocabulary of a child 3 to 4 years old? Also the number of words the average adult knows. Would you say that a child 3½ years old who knows and uses 600 words is above average?

E. M., Minnesota.

Answer.—The size of a child's vocabulary may be estimated on the basis of all the words used by the child within a given period of time, or it may be simply the average number of different words used during several periods of observation. The situation in which vocabulary is measured may range from spontaneous responses in a free play situation to responses to a selected list of questions or to a standardized test. There are many problems involved in determining what constitute different words; that is, whether or not plurals and inflections of verbs and adjectives should be considered separate words.

The best study is probably that of M. E. Smith, who obtained the following results:

Age	Number of Words
2 years	272
2½ years	446
3 years	896
3½ years	1,222
4 years	1,540

The range, however, is large in a group of children of average intelligence, and no particular significance is to be attached to rather large deviations from these mean values.

Terman, on the basis of results from the Stanford-Binet vocabulary test, gives around 12,000 words as the average adult vocabulary. Other studies place this figure considerably higher. Some studies of high school seniors indicate a vocabulary of between 15,000 and 18,000 words. The best general reference is probably Dorothea McCarthy's book, "Language Development."

Mental Deterioration in Old Age

To the Editor:—Do scientific facts show that there is a connection between one's mental activities in late middle life and the approach of mental senility late in life? In other words, would facts substantiate the idea that keeping one's mind alert as long as possible and trying to "keep abreast of the times" in every way would postpone a tendency to lose the memory and break mentally?

My father's mentality began to fail when he was in his late seventies and grew worse, of course, until his death at the age of 85. On the other hand, my mother, who is now approaching her eighty-ninth birthday, is mentally alert and active in many lines of work.

Could my father have kept mentally fit a longer time by an effort to do so after he retired and was inclined to stay at home and not take an active part in affairs? Of course, I realize that keeping one's mind active helps to keep one alert and young, but can the actual physical aspect be affected by effort? The doctors explain to us that the mental condition of senility is caused by the thickening of the arteries and blood vessels in the brain, and my question is whether or not this may be postponed by mental activities.

T. W., Iowa.

Answer.—This question is most difficult to deal with scientifically. A study of the development of mental problems associated with old age would necessarily need to extend over many years in order to arrive at valid conclusions. It would necessitate having one group that kept itself as alert as possible and another group that let itself go in order to compare results, and it

would have to depend to a large extent on indirect information and reports from the persons themselves as to their attitudes. Furthermore, the quality of alertness would have to be measured in some way which is not at present available. Without this, the answer must be impressionistic and not scientific. There would seem at present to be no justification for the assumption that mental deterioration of old age could be prevented in this way. Many persons look forward with dread to old age because some one in the family has shown this type of deterioration. Such anxiety would seem from present information to be quite unjustified.

Dictating Machines

To the Editor:—I have a secretarial position and we now have a dictating machine in our office on trial. I should greatly appreciate it if you will advise me whether or not there is any danger whatever of one's hearing becoming affected by its use.

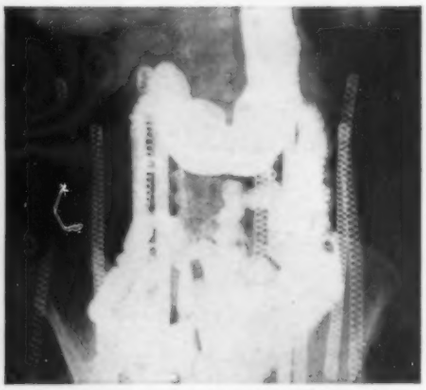
I tried one out some years ago and did have headaches at the end of the day and it seemed to make me nervous, so I gave up my position on account of it after several weeks.

E. W., New Jersey.

Answer.—There is certainly no justification for believing that one's hearing would be affected by the use of such an apparatus. As for the headaches, possibly they could be avoided by a different adjustment of the earphones. It is unfortunate that the use of the apparatus makes you "nervous," and it is difficult to suggest any way that this effect can be eliminated since the chief reason for it is to be found in the person. Many people find the dictating machines satisfactory indeed and even prefer them, while others have reactions similar to yours.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

X-RAY OF ORDINARY CORSET, showing how stomach and internal organs are cramped downward by constricting pressure . . . a menace to health and vigor.



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WHAT TO DO ABOUT THUMB SUCKING—By William I. Fishbein. 6 pages. 10 cents.

THE FAMILY HELPS THE SPASTIC CHILD—By Belle McKinnon. 16 pages. 15 cents.

AMERICAN MEDICAL ASS'N., 535 N. Dearborn, Chicago

Wartime First Aid

(Continued from page 440)

4. Swelling and discoloration—frequently not present for several hours.

5. Sense of grating with motion.

6. In compound fractures, bone may or may not protrude through the skin wound.

The first rule in handling fractures is expressed by orthopedic surgeons in the picturesque phrase "Splint 'em where they lie." Moving a person with a fracture before the bone is properly splinted may increase shock and result in death, or it may turn a simple fracture into a compound one.

Traction splints are the most effective protection for a broken arm or leg. These may be the specially made devices or may be improvised from boards and cravat bandages. A simple splint may be improvised from a thin board, a telephone book, a newspaper, a piece of linoleum or some other material that is rigid when folded or rolled, applied with plenty of padding between the material and the part. The first aid course provides several hours of instruction and demands a great deal of practice in the application of splints.

Fracture of the spine, such as a broken neck or broken back, is extremely dangerous. Improper care may cause death or permanent paralysis.

A victim with a broken neck must not be allowed to move his head. Keep him lying in the position in which he was found, cover him with blankets or wraps and get a doctor. If it is imperative to move a person with a broken neck—if for instance he is near a wall that is about to crumble—he should be placed on something rigid like a door, shutter or wide board and moved with extreme care by at least three persons. The instructors will show you exactly how it should be done.

When the back is broken the same extreme precautions must be observed. Any move that doubles the injured man forward may cause death or paralysis for life. There is a special technic for moving him if he must be moved. It is possible to use a blanket if no rigid support is available. In case of doubt, handle a suspected fracture as if it were actually a fracture.

Contrary to all expectations, the use of poison gases has so far been reported only a few times in this war. It will not do, however, to assume that gas will not yet be used to spread confusion and suffering among both military and civilian populations.

These poisonous chemicals may be released as gases, smokes or liquids, which cause their havoc by being inhaled or by coming in contact with the skin, eyes or nose of the victim.

Some gases are dangerous for only a short time, as the vapors are soon dissipated in air. Others cling to clothing, plants, implements and other objects, contaminating them for long periods. They all have characteristic odors which the first aid student must learn.

Classified according to their effects, the principal gases are tear gases, sneeze gases, choking or lung-damaging gases, systemic poisons and blister gases.

Tear gases are valuable to an attacking force because they may disable groups of defending forces long enough to allow some other more deadly form of attack to be launched. They may throw industrial workers into confusion long enough to slow up arms production.

The tear gases may have the pleasant smell of apple blossoms or the disagreeable one of sour fruit. They make the eyes burn and flood with tears. Generally the eyes recover without treatment, but warm soda water will relieve them if the burning pain is severe.

Sneeze gases smell a little like coal smoke and their effects are severe but temporary. They cause mental depression. The victims need reassurance that the aching pain, sneezing and coughing will soon pass off. The first aid treatment consists of flushing the nose and throat with a weak solution of baking soda or having the victim

breathe fumes of bleaching powder in a wide-mouthed jar.

The choking or lung-damaging gases may smell like new cut hay or moldy hay, with either a pungent and disagreeable odor or a sweetish one. The effects of this kind of gas may be delayed for as much as twenty-four hours, but they are serious. If there is any suspicion, therefore, that a person has been exposed to this type of gas, he should be made to rest even if he has no symptoms. He may collapse without warning. The first aid worker is warned not to give artificial respiration in this type of poisoning.

Gases that cause a general poisoning of the system have various smells, including some resembling "bitter almond, rotten eggs, garlic." Their immediate effects include slight headache, loss of consciousness, convulsions. Breathing may stop. To relieve these symptoms remove the victim to fresh air, give artificial respiration if needed and treat for shock.

Blister gases cause acute inflammation of the eyes, itching, burning and blistering of the skin, severe pain in the chest and coughing. These are the gases that are persistent in addition to being dangerous and powerful. Danger does not cease with a brief exposure. Other casualties must not be placed with these, and the rescue workers must exercise extreme care not to become casualties themselves. First aid treatment must be immediate and is more complicated than for any of the other types. Contaminated clothing must be removed. The eyes can be irrigated with a solution of baking soda. The skin may be daubed lightly (never rubbed) with cloths moistened in benzene, kerosene, alcohol and ether or with straight gasoline (not ethyl) or carbon tetrachloride (pyrene). These substances must be washed off quickly with running water and soap lest they cause further irritation. Before skin becomes inflamed chlorinated lime (bleaching powder) made into a cream paste with water will neutralize mustard gas, but must be washed off in a few minutes. Bleaching powder must not be used after redness appears. For lewisite, hydrogen peroxide or permanganate of potash are effective agents.

(Continued on page 461)

War Paint

In the midst of the blitz in England a lipstick became a symbol of democracy, bravely worn in defiance of that "wicked man's" attempt to shatter morale. Early in the history of the U. S. S. R. women protested against a ban on cosmetics, and it was lifted. These things are easy to understand when one reflects that cosmetics are an intimate part of a woman's life. They are essential to her well-being, her sense of personal fitness. When a woman knows she looks pretty she can face almost any situation with equanimity and courage. She needs her "war paint"; it bolsters her morale.

During the telling months ahead our industry may be deprived of certain raw materials. Packages and containers may have to be changed. Any great emergency is a test of resourcefulness. We believe that our industry will not be found lacking in that sterling American quality. Our research facilities are directed towards finding alternative raw materials that will be at least as satisfactory as those they replace. Come what may, we'll do our best to continue to supply American women with those aids to good grooming, those props to personality, that in their modest way contribute so much to national morale.

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KANSAS CITY, MO.

The President asks You

to IMMUNIZE your Children

ROPER* survey reveals WIDESPREAD FAILURE of American mothers to safeguard their children against Smallpox and Diphtheria

TODAY, in this war crisis, immunization is more important than ever before—so vital that the President of the United States in a recent Proclamation asked that . . ."all children over 9 months of age be immunized against SMALLPOX and DIPHTHERIA."

Have you had your children immunized against these diseases yet? If you haven't, *you should do so immediately.*

☆

In a recent, nationwide Roper survey, 50% of all mothers with children under 5 years report they have never had a single child vaccinated against SMALLPOX!

Moreover, 34% of these mothers say not a single one of their children has been inoculated against DIPHTHERIA!

Unfortunately many mothers mistakenly believe these diseases are virtually extinct

The facts show *more cases of smallpox are reported by the United States than any other country, except India!* And yet protection against smallpox is open to all who go to a physician for vaccination—a safe, simple procedure which takes only a few minutes.

Diphtheria has been decreasing—*but in the past 10 years at least 392,000 people in the United States were stricken with diphtheria . . . nearly one of every 10 died!*

The Roper survey shows mothers believe in immunization. But, unhappily, the majority do not appreciate the importance of having their children *immunized during infancy* and *reimmunized at proper intervals* to keep this immunity effective. All too many mothers say they would not have their children inoculated until an epidemic arose—or until their children were exposed to the disease.

To postpone calling your physician until there is an epidemic or they've been exposed is extremely dangerous. Remember, your unprotected child may be one of the first unfortunate thousands stricken before it is recognized that an epidemic prevails!

☆

How recently have you given your physician a chance to advise you about immunization?

Many mothers report they will have their children immunized when advised to do so by their physician. In this war crisis with its influx of refugees . . . mass movements of the population . . . crowded defense areas —there is no more important a time to consult your physician than *right now!*

*Elmo Roper, national authority on public opinion sampling, conducts the *Fortune* survey. In his presidential surveys he forecast the election of 1936 within 1% and the election of 1940 within ½ of 1%.

ARE YOU SURE YOUR CHILD IS PROTECTED AGAINST SMALLPOX AND DIPHTHERIA?

The following statements are broken down according to child age groups. Unless you can say "Yes" to those applying to *your* children, you should *immediately* take your children to your physician.

FOR INFANTS . . .

I had my child first vaccinated against smallpox between 3 and 12 months of age—or at least before the age of 3 years. Yes ☐ No ☐

I had my child given an initial inoculation against diphtheria between 9 and 18 months. Yes ☐ No ☐

FOR CHILDREN STARTING SCHOOL . . .

I had my child revaccinated against smallpox before going to school or at 6 years of age. Yes ☐ No ☐

At 6 years I had my child given a Schick Test to indicate susceptibility to diphtheria. Yes ☐ No ☐

FOR CHILDREN 12 AND OVER . . .

I again had my child revaccinated against smallpox at the age of 12 years. Yes ☐ No ☐

At 12 years I had my child given a second Schick Test to indicate susceptibility to diphtheria. Yes ☐ No ☐

When either of these Schick Tests showed susceptibility, I had my child reinoculated against diphtheria. Yes ☐ No ☐

against SMALLPOX and DIPHTHERIA

Many physicians are making an Immunization Record *available to their patients*

An Immunization Record Card, when properly filled out by your physician, will materially aid you who want to give your children the benefits of complete immunization protection. A card for each member of the family will tell what diseases each has been immunized against and *when* and *what* reimmunization will be necessary.

See your physician for these cards *today!*

An Immunization Record Card is supplied to the medical profession by Sharp & Dohme, Philadelphia, Pa., makers of Pharmaceuticals and Mulford Biologicals, as part of their endeavor to aid in the prevention of communicable diseases.

Thumb-sucking... Nail-biting can be discouraged

Thumb sucking and nail biting are unhealthful habits of children. Don't resort to bribes and promises, use THUM. Directions on bottle. Remove from fingers with nail polish remover.

USE THUM
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EASY TO USE
APPLY LIKE NAIL POLISH
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THUM contains capsicum 2.34% in a base of acetone, nail polish and isopropyl.

IF YOUR CHILD OUTGROWS SHOES RAPIDLY... Read This!

Shoes of conventional construction usually crease at the back after wear, pushing the foot forward until the *toe-room provided for growth is wasted.*

Trimfoot Pre-School Shoes, with patented "Cuddle-Back" heel construction are designed to prevent this creasing and to preserve a smooth, snug fit at the heel. Little feet are allowed to utilize *all* the space provided for growth.

For a better and longer lasting fit, see Trimfoot Pre-School Shoes at your shoe or department store . . . . $2.35 and $2.85

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TRIMFOOT PRE-SCHOOL SHOES

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IV. CAN YOUR CHILD READ WELL?

WHAT does the poor reader do? He may read too fast; he may read word by word, pointing as he reads; he may repeat words, trying to find the right pronunciation; he may read too slowly, hesitating on every other word; he may fail to make proper groupings; or he may omit letters as he pronounces the words. In addition to actual difficulties with the reading of the material, the child may have developed some personality problems. He may have formed an intense dislike for school as a result of his poor reading ability. He may be negativistic, stubborn or nervous. He may cry easily, or have temper tantrums.

From 10 to 20 per cent of the school population has been found to be seriously retarded in reading ability. As with speech, more boys than girls have difficulty with reading. Moreover, it is found that the language abilities, which include reading, speech, spelling and writing, go together. When one is poor the others are likely to be deficient, and when one is good the others are likely to be acceptable.

Reading, writing, spelling and speech have to be learned. The child does not talk, read, write or spell just because his parents did. Moreover, a certain area of the brain controls these abilities; consequently, if one is out of order, the others may be also. Because of physical and nervous maturation, the child is ready to walk at a certain time, usually at 12 to 15 months of age. He is ready to learn speech at from 12 to 36 months. Not until the child has become fully matured mentally and physically can he learn reading. Several authorities have agreed that the child is really not mature enough to learn reading satisfactorily until he is 6½ to 7½ years old. Urging the child to read before he is ready may cause unnecessary harm.

Since so many children are found with reading handicaps, schools are beginning to provide special facilities for remedial reading. However, most crowded school programs do not allow for enough individual attention for the child with severe reading retardation. Thus in many instances a psychologic clinic or private clinician is the best solution. Often children have been allowed to pass reading courses and have been promoted even to high school and college without achieving adequate reading ability to do good school work in all subjects. Such a handicap causes educational failures and psychologic maladjustments.

How does the child react when he finds that he cannot read as well as others of his age? He may take several different attitudes. He may accept his deficiency and not try to read. He may withdraw from activities of the class, making no attempt at all to get his school work; or he may become aggressive, expressing his reading inability by fighting, bullying or yelling. On the other hand, the less antagonistic child may compensate for his reading deficiency by excelling in some other subject, such as shopwork, arithmetic or drawing. The healthiest attitude for the child to take, however, is to attack the problem of reading. With help from a well trained teacher he can learn how to read satisfactorily.

Reading disabilities are caused by many factors; no defect depends entirely on one condition alone. Moreover, the person who has the defect is a more important consideration in its treatment than is the condition itself. How does the patient react to specific conditions which seem to have produced the defect?

Before knowing how to proceed, the person who is to help the child with his reading problem must

CHILDREN

By RUTH E. BECKEY

know something about the causes of the difficulty. The reading habits of the child must be observed. In an analysis of causal factors involved in reading disability cases, many psychologic tests have been devised for making the diagnosis. Any well established college psychology clinic can aid parents in finding the proper procedure to use in helping their child. The psychologist can give intelligence tests to ascertain whether Jimmy is mentally inferior or simply inadept at language activities. Achievement tests also can be given to find at what level Jimmy is now reading. He may be trying to read material on a level too high for him. Although he is 11 years old, his reading age may be only 8 years; in this event the teacher and parent should find material that will be easier for him and let him proceed slowly with his work. Otherwise, he will become discouraged.

The psychologist can also give tests for eye, ear and motor coordination. About 20 per cent of the poor readers are found to need glasses. The audiometer is used to determine the hearing difficulties of the poor reader. Approximately 40 per cent of the poor readers have partial deafness, poor auditory discrimination or deafness at certain frequencies. If the child is not alert to sounds, he will not associate sounds with the letters of the words he is reading, and consequently his reading and spelling both may be poor.

The clinical psychologist may also find that the child has poor motor coordination. If your child falls easily or is extremely awkward he may be poorly coordinated. Such poor coordination may cause the eyes to be ineffective in following printed words. The child may even have difficulty in pointing to words with his fingers.

Other tests may be given to determine if the child has sufficient brain dominance to control the reading activities. Like speech, reading is controlled by one side of the brain. If tests reveal that the child is right-eyed and right-handed, then the left hemisphere of his brain is supposed to control his language activities. However, a change of handedness may have caused some hemispheric confusion. The left-handed writer often writes a mirror writing, and the left-eyed reader may be found to be reading upside down and backwards. One little girl in the clinic at the Hill-Young School of Speech Correction even drew pictures which were upside down. Such people see words and pictures in this way. It has been found that about 40 per cent of the poor readers are left-eyed; possibly they have difficulty in adjusting the dominant left eye

Roy Flukes

Urging the child to read before he is ready—usually during the seventh or eighth year—may cause unnecessary harm. Complete understanding of the cause of reading difficulty is essential before remedial steps may be undertaken with success.

to the proper direction of reading material, which is arranged for the normal reader.

Besides giving the child tests to ascertain some of the factors which may be causing the difficulty, the diagnostician must take a complete case history of the child. If the clinical psychologist takes the history, he should confer with the parents, with the family physician and with the child's school teachers. By observation, the parent may determine if the child is weak or easily tired by his work. Insufficient sleep may handicap the child in school work. The physician can help the parent to find out what effect the child's physical condition may have on his reading progress.

Environmental conditions surrounding the child may also be instrumental in retarding his reading development. Because of poor economic conditions he may feel insecurity in his home, or he may feel emotional insecurity as a result of quarrelling parents. These insecurities add to the child's problems and may have an effect on his school work.

A consultation with the child's reading teacher may help to determine why he is not doing so well. Too much stress may be given to reading for speed, or to silent reading, or to oral reading. Some children learn better by the silent method, but others need to hear the words pronounced aloud many times. Reading needs to be learned by sight, by ear and by feeling. It is believed by some that modern teachers of reading have been teaching too much by the visual method, ignoring the importance of phonics training. Many children in school systems today do not even know what sounds the different letters make. Consequently, new words often have no meaning whatsoever from the standpint of sound. It may be that your child needs to learn how to sound the letters—his hearing may be more acute than his eyes.

Supposing you want to help your child to read better, what can you do? In the first place, have you consulted your physician to find out the physical condition of your boy or girl? If nothing is wrong with the child's eyes, ears, glands or health, then try to find a reliable clinical psychologist and obtain the psychologic tests which will be helpful in finding out the causes of the child's difficulty. Furthermore, ask the psychologist to outline a program of procedure which you may use at home, in case no arrangements can be made whereby you may send the child to the psychology clinic for individual care.

In planning the remedial program for the child with reading disability, certain questions must be considered first. First, does the child seem to learn how to read more easily by the visual method of quick recognition of words and letters? Second, does the child seem to learn more readily by the phonetic method, in which letters are "sounded out"? Third, does the child seem to learn more rapidly through the kinesthetic method, in which he traces words and later copies them? A combination of the visual, phonetic and kinesthetic methods may be used to enable the child to progress most rapidly in the acquisition of his reading skills.

Specifically, what can you as the child's parent do to improve his reading?

1. You may observe the child's progress and give him encouragement whenever possible. Praise causes the child to do good work.

2. Give the child individual help with his reading.

3. Have lots of interesting materials suitable for the child's reading age (level at which he can read most satisfactorily, regardless of his chronologic age or school grade).

4. Try to utilize the child's abilities and interests when you choose materials and methods. He may like to write the words on a small blackboard, he may like to typewrite the words, or he may like to play games with words and letters.

5. Plan reading periods for the child systematically at regular times when the child will be the least tired.

6. Play games with him. (a) You might make picture cards by pasting magazine pictures on cardboard. On other small cards print words which match the pictures. The child attempts to match the pictures to the words. (b) Some letters are so much alike that the young reader has difficulty distinguishing among them. Make several letters on small cards and have a box for each sound. As you sound "p," for instance, the child looks for the letter "p" and puts it in the proper box. (c) In still another game, every letter has a name. Regarding "k," for instance, you say, "What is its name?" The child may answer, "It is 'k.'" You may continue in this manner: "What does the letter say?" and "How do you make the letter?" This game enables the child to combine all three principles of seeing, hearing and feeling.

The parent may help the child in many ways to develop skills in his reading; however, the parent should also be interested in preventing the need for special remedial training in reading. In order for your child to be a normal reader with no difficulties, he must have normal intelligence, good eyes, acute auditory discrimination, good health, good enunciation and articulation, good environmental and psychologic conditions, a wide background of information and experience, good educational opportunities and a "reading readiness." Children usually do not attain enough educational or physical maturity to learn reading before the age of 6 or 7 years.

REDUCING DEATH RATE FROM RUPTURED APPENDIX

The administration by vein of lyophilized convalescent peritonitis plasma (the fluid portion of the blood, prepared in a special way, of some one who has recovered from peritonitis) is advised by J. O. Bower, L. A. Terzian, J. C. Burns, H. B. Trachtenberg and A. E. Pearce, Philadelphia, as a means of reducing the death rate from appendical peritonitis (inflammation of the membrane lining of the abdominal cavity due to rupture of the appendix). In their report in a recent issue of *The Journal of the American Medical Association* they say that the plan proved workable in Pennsylvania. They found that induced peritonitis in dogs produces tissue and body fluid changes similar to those observed in cases of appendical peritonitis in man, thus making possible the evaluation of agents used to combat it.

Wartime First Aid

(Continued from page 455)

War conditions may bring injury from heat and cold, for war goes on in all seasons. Air raid victims and civilian defense workers alike may be exposed to extremes of temperature. The first aid worker, then, must be able to recognize heat stroke and to distinguish it from heat exhaustion, which requires exactly the opposite treatment. Heat cramps, caused by depletion of salt in the system through excessive perspiration, may develop in persons exposed to intense heat as fire fighters may be. Frostbite may be encountered. First aid instruction for frostbite has a special warning: Do not massage a frostbitten part. Let the thawing process be drawn out through several hours.

Carbon monoxide, the deadly colorless, odorless, tasteless gas that makes running a motor in a closed garage so perilous, is a frequent danger in war. Damage to gas mains, fixtures or furnaces may allow "CO" to escape into a closed space; collapse or blocking of a chimney or flue may divert the poisonous gas from a furnace into a house; incomplete explosion of a bomb may release a large amount of it. A person affected or overcome by carbon monoxide must be removed to fresh air quickly, should have inhalations of oxygen if it is obtainable and, if breathing has stopped or is impeded, must have artificial respiration at once.

The first aid course includes careful directions for the application of bandages, transportation of the injured and artificial respiration. To become expert in these vital methods will require many hours of training and practice. Authorities insist that practice should continue after the class is over. It is hoped that groups will assemble to practice on one another.

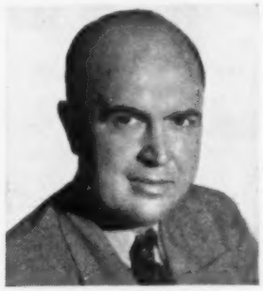
Industrial plants, business establishments and other agencies will do well to organize training programs. The local chapters of the Red Cross are prepared to help with organization and to furnish instructors. If the nation is prepared—down to each family circle—the horrors of war can be lessened in some degree. It may be said of us as it was recently said of British patients in a bombed hospital, "The morale was stupefying."

Behind the Scenes with

DOCTORS AT WORK

Besides actors it takes direction, music, announcing, script and planning to bring you a radio program. Here are the people who are responsible for *Doctors at Work*.

Dr. W. W. Bauer, Director of the Bureau of Health Education of the American Medical Association, is the originator and general supervisor of the program. **William J. Murphy,** Director of Continuity for NBC's central division, writes the original and entertaining scripts; other radio features by Mr. Murphy include "Flying Time" and "Cameos of New Orleans." **John Holtman,** announcer and narrator, has played on the stage and in radio as an actor and has announced for NBC for the past five years. **Martin Magner,** Production Director, has played and directed on the stage and with opera. He has directed not only in the American radio and opera but in many well-known European houses. **Joseph Gallicchio,** orchestra conductor, is well known to radio listeners and in symphony orchestra circles. Joe was a pioneer musical broadcaster with WMAQ before NBC was organized. **Virginia Payne,** who plays **Mrs. Riggs,** Tom's mother, has had extensive experience, not only in radio but on the stage. Apparently she believes in realism in acting; when Mrs. Riggs in the script had a broken leg, Virginia obligingly broke her own. **Arthur Kohl** does many parts for *Doctors at Work,* blending his versatile talents in character and comedy with equal facility. "Comedy," he says, "is my forte, but few directors ever think I am very funny." The fact is, Arthur *is* funny. **Ruth Perrott,** who does the inimitable **Emmy,** is an experienced actress on stage and radio and has had several one-act plays produced, two of which won prizes. **Jerry Spellman,** who does the small boy parts, has appeared in Tom Mix and Ma Perkins radio programs, as well as in *Doctors at Work*. **Geraldine Kay** is a former New York actress, now the wife of an NBC director.



William J. Murphy

Dr. W. W. Bauer

Left: Joseph Gallicchio, John Holtman, Martin Magner. Below: Virginia Payne, Ruth Perrott, Jerry Spellman, Arthur Kohl, Geraldine Kay

SATURDAYS

5:00 P.M. Eastern War Time

4:00 P.M. Central War Time

3:00 P.M. Mountain War Time

2:00 P.M. Pacific War Time

Physical Training for Army Flyers

(Continued from page 418)

instruction divided into four periods of ten weeks each. The first period will be spent in one of the seven replacement centers where he will learn the rudiments of aviation and undergo intensive military instruction. In company with some 3,500 other cadets he will attend aviation classes and physical training classes. It is mandatory at this stage that he spend a minimum of three to four hours a week on conditioning and hardening exercises, using calisthenics or setting-up exercises as the basis for the conditioning work. He is allowed to spend the other two or three hours of his minimum compulsory physical training time on gymnastics or sports such as handball, restricted boxing and wrestling, tennis, table tennis and other sports in which he competes against another man. Although he is also allowed to spend some time on mass sports such as basketball, softball, touch football, speedball and similar competitive games, emphasis is not on these sports.

Supervision of athletics is strict at all schools, and boxing is restricted to the training aspects, such as bag-punching, rope-skipping and shadow boxing. The reason for this extreme care is that any injury, particularly to the nose or eyes, will ruin an aviator's career. One good punch on the nose can cause Uncle Sam a loss of around $15,000, which is a rough estimate of the cost of training a military aviator. Good nasal condition is extremely important now that so much flying is done at high altitudes. If the sinuses are damaged, changes of pressure will often develop in them during rapid changes of altitude, causing extreme discomfort to the pilot and preventing accurate flying.

The emphasis on sports as part of the cadet's aviation program is natural. Not only do sports help keep a cadet in physical trim and relaxed mentally, but ability or lack of ability in sports is often an indication of whether he will become a good pilot after his course of flying training is over.

Sir Henry Head in 1920 observed that men who were good at bat and ball games made good pilots, while men who were weak at such games but good at track did not. Sir Henry wrote: "Man not only uses this power of projecting himself to the end of some mechanical appliance in his work, but games were invented to exercise this faculty. Flying a machine heavier than air is nothing more than an extended application of this power, demanding adapted movements of every part of the body and limbs. No new elements come into the mechanical problems of flying that are not evident in riding a motorcycle, game shooting, cricket, or golf."

What Sir Henry no doubt meant was that all around athletes usually make excellent pilots. If that is correct Uncle Sam is getting the best pilots in the world, for the trainees in the Air Force are not only becoming experts at aviation, but the steady diet of supervised sports is rekindling their interest in these and making them experts at sports as well.

The trainees at the various schools take to their training, whether it be at aviation theory, aviation practice or sports, with a zeal that resembles the knights of old. They realize that air power is now admitted to be the most important factor in the winning of any military engagement, and they appreciate the grave part they have to play in the conflict involving the armed forces of this country.

They remember that England as a nation might have been destroyed in those fateful days of September 1940 were it not for that gallant body of men, the Royal Air Force, "the few to whom so many owe so much," who met and defeated the vaunted German Luftwaffe in its all out attack on the British Isles. They believe that the miraculous rescue of thousands of English soldiers from Dunkirk would never have been possible were it not for the "ceiling" of British fighting planes which protected the beaches and held the German planes at bay while the tired men were being removed by boats.

They know that much is expected of them after their training is over. They want their fellow Americans to know they will be 100 per cent trained and physically fit as they complete their training and enter active service.

How to Enjoy Poor Health

(Continued from page 427)

his currently refreshed calm with his prior weary and nervous tension. Being a normal human being, he will now make some good resolutions. He will cut down on the smoking, for one thing. He will get more sleep. He will take more exercise. He will slow down his whole mad pace. And next summer he will see about buying a little place in the country where he can really relax.

This is the normal course of the normal mind during a three day recuperation. Members of the family who watch these strange thoughts taking shape need not grow alarmed. Probably nothing at all will come of it.

The alert patient will discover after two or three days in bed that the service which he has come to expect as the sick man's due is beginning to relax a little, and that the solicitude for his health has now grown more casual. He will wisely recognize these signs and start, a little sadly, to stir himself again.

He will learn, to his surprise, as he ventures downstairs for the first time, that he is actually in a rather weakened condition. He will feel sorry for himself. There will be a momentary temptation to retreat to the bedcovers again. Then necessity, or resolution, or whatever it is that keeps man and woman going, reasserts itself.

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3 **Now taste the zestful,** wholesome goodness of these high-quality dishes! The delicious, natural flavors —as well as valuable vitamins and minerals—are retained in high degree by vacuum-packing in special, protective enamel-lined tins. No wonder even tiny tots thoroughly relish strained foods bearing the famous keystone label!

EVER since 1869—when a young man founded the House of Heinz on the principle of providing America with highest-quality foods at moderate prices—the keystone label has stood for uniformity and fine flavor in 57 Varieties of good things to eat. And Heinz Baby Foods—15 Strained Foods for infants and 12 Junior Foods for toddlers—uphold this tradition. That's why they have won the complete confidence of America's mothers! Order a supply of ready-to-serve Heinz Baby Foods. You'll save yourself time, work and worry!

HEINZ *Baby Foods*

15 Delicious, Ready-To-Serve Strained Foods Vacuum-Packed In Protective Enamel-Lined Tins.

12 Highly Nutritive Junior Foods To Bridge The Gap Between Strained Foods And Family Meals.

57 THESE TWO SEALS MEAN PROTECTION FOR BABY

FEEDING PROBLEMS

Feeding problems are often a symptom of deep rooted maladjustment requiring months of painstaking effort to correct or overcome. **By GEORGE M. LOTT**

Wrong technic there, young lady! Looks like force-feeding, and you may be initiating a "contest of wills" which will develop into a serious feeding problem—and perhaps into behavior difficulty affecting the child's whole personality!

ANY ONE seeking a simple rule of thumb to follow in the solution of feeding problems is doomed to disappointment. Only an understanding of the particular forces in operation can point the way to effective corrective measures.

There are many different ways in which eating problems develop. External causes include such things as exaggerated coaxing, attempts to speed up the eating process, and allowing the whole matter to become a contest of wills. Some parents drift into the use of disciplinary measures. Sometimes, the forces contributing to the problem are really at work in the personality of the mother or nurse—the result of various anxieties which the child's behavior may have stirred up in the parent. For instance, this or another child may have been ill and almost died. When for any reason the child does not eat, the mother may feel the anxieties which she had during the former illness. A conscious realization of this may not be present. There are still deeper forces at work in the mother who cannot control herself or manage wisely. These forces are usually of early origin and deserve special discussion.

CAUSES WITHIN THE CHILD

Many feeding problems begin with the onset of illness or with teething and emotionally upsetting experiences. It is important to know that normally appetite fails during the period when a child is coming down with an acute illness. Pediatricians have known for a long time that a perceptible drop in weight is the first sign of an

acute infection in the offing. The child becomes a little listless, the appetite begins to fail and last of all come the symptoms of fever and prostration. Perhaps the most frequent onset of a struggle about eating between the mother and child is at this time when the child is coming down with an illness. The stomach is unable to digest food properly, so that forced feeding does actual harm and tends to precipitate the illness which might otherwise be warded off. The eruption of each new tooth may introduce a period when eating is painful. Emotional upsets come on insidiously and are prone to cause a return of earlier feeding problems. The birth of another child may cause a great deal of jealousy and feelings of deprivation. Thus when a sister was born, Burt, age 3, started to refuse all foods but milk, apparently in the attempt to put himself in the same favored situation as the baby. Domestic discord and separation of the parents may revive infantile behavior in the child. The same can be said about the change from one foster home to another. Many of these emotional factors have a bearing on feeding difficulties.

MATERNAL ANXIETIES

Abnormal tension and anxiety in many mothers trick them into unwise management of feeding problems. In such cases, it becomes apparent that the mother is the patient and needs assistance. Mothers who bring their children to the doctor frequently are well read in mental hygiene literature. They are aware of how they should manage eating problems with calmness and without special coaxing. It soon becomes apparent the question is not, "What should I do, Doctor?" but, "How can I get sufficient control to do what I know I should do?" Such mothers are the helpless victims of their own compelling anxieties, which frequently are exaggerated beyond reason. The source of these anxieties is really not the child's behavior. They come from within the mother, stemming from her own personality problems. Any eating hesitation on the part of the child or other upsetting experience may set off these anxieties, which are then displaced and focused on the eating problem. The mother may have been forcefed herself and may thus have acquired an overemphasis on the importance of food. When children are little they may not understand what is said to them, but they perceive clearly the feelings of their adult superiors. Their curiosity is stimulated and they may even adopt the attitudes of their nurses and caretakers. It is not unreasonable to suppose, therefore, that food may assume tremendous importance and that this influence may carry over into adult life.

However, there are other, deeper processes which may be at the bottom of the difficulty. One powerful cause of such maternal overprotection and worry is a deep-seated partial rejection of the infant. A child is indeed a burden, requires much care and may not have been planned for at the time of conception. The less mature the mother, the less readily does she fully accept the responsibility of child rearing. The marriage may have been unhappy. The mother may be extremely prudish and may thus tend to reject the baby, representing as it does the product of sexual relations. One or both parents may be juvenile enough to act as though they regarded the child as a competitor for the attention of the other. The important element is that the average woman feels badly about having such unacceptable attitudes. She may not admit them to herself but may sense the associated guilt and anxiety. Many such mothers spend much of their time overdoing their maternal activities in the effort to prove to themselves that they are good mothers. They become overprotective, overanxious and sometimes overly indulgent, and usually they do not know why. The relatively immature, self-centered person may have unsatisfied basic needs for a dependent and protective relationship. These needs may have been frustrated in childhood and never adequately satisfied in marriage. The onset of the feeding problem may destroy whatever positive meaning the infant had for the mother. The eating problem makes demands on her energies and increases her feeling of failure as a mother. The net result is more stress on eating, and this usually makes the problem worse and the child more dependent. Pressure from friends and relatives increases the anxiety. The mother is no longer able to refrain from coaxing and spoon feeding. She may feel

"I wouldn't trust anything but LUX," says triplets' mother

MRS. HENRY J. BLANCHETTE, mother of these cunning triplets, is very wise about their care. All their wee garments are *safely* washed with Lux.

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Clever mothers everywhere choose new, quick Lux for baby things. It has *no harmful alkali*. It's *gentle*—safe for anything safe in water. And a little goes so far, it's thrifty.

compelled to force-feed. Retaliative vomiting often appears; the child in turn tends to make excessive and unreasonable demands, possibly in an attempt to regain the sense of being loved and wanted. A vicious circle results which may lead to a breakdown or its equivalent. Separation of the mother and child by attendance at camp usually results in temporary improvement. Part of the mother's tension may arise from her own similar training in infancy. The impact of the mother and child on each other may bring about various degrees of this pattern, which seems to be repeated from generation to generation. Superficial observation would indicate an hereditary tendency. However, the actual clinical findings point to "contagion by contact" in the same way that infectious physical diseases are passed around.

PREVENTION

The prevention of feeding problems is the best form of treatment. When a vicious cycle is set up it is difficult to unravel. When the child is born, instinct makes it nurse to obtain food. Interference with nursing causes frustration and anger. A certain amount of suckling is necessary, and nature wisely makes it a pleasurable activity. One of the early problems associated with feeding occurs when the milk comes too fast from the breast or bottle. The stomach is filled before the sucking need is satisfied. Dr. David M. Levy of New York has found that some thumb sucking is produced by enlarging the hole in the nipple, and cured by making it smaller. Proper regulation of the rate of flow of the milk is therefore necessary to avoid such complications as thumb sucking. The importance of avoiding urging, coaxing and forced feeding has already been made apparent. Any measure which emotionally charges the feeding process is to be avoided. Feeding may become the subject of a contest of wills between the parent and the child. In this struggle, the main issue of nourishment may be lost sight of and the clash of wills take the center of the stage. A little intelligent awareness of childish motives may be all that is needed to prevent such a situation.

A pleasant atmosphere at the dinner table and attractively served food will do much to forestall food fads and the like. One good policy is the early, polite, calm insistence on no dessert unless some of most articles on the menu are eaten. A good parental example is most important. When father or mother or grandmother says, "These potatoes are not fit to eat," the children are likely to take the same attitude. There are many tricks in the management of food problems. A canny Scot once said "Love your children, set them a good example, and leave them alone." In the management and prevention of eating disturbances this is good advice to follow.

CORRECTION OR TREATMENT

A medical examination to rule out causative physical conditions is the first step in correction. Youngsters with foci of infection such as diseased tonsils or adenoids and a host of other mild ills may not have a good appetite. When medical treatment does not suffice and a feeding difficulty is established, wisdom, time and patience are essential to attain a remedy. Each child's peculiarities must be studied. There is no magic pill which will mysteriously "cure" the difficulty. A consultation with the family doctor may point out a method of correction to be followed. In long standing cases harmful eating habits may require prolonged, intensive treatment by a qualified psychiatrist. The more involved and fixed the problems, the less likely is success to be attained. An ample treatise on the correction of feeding disturbances would be tedious. More helpful is a general understanding of the normal developmental processes and the avoidance of errors warned against in the discussion of prevention. Practical, matter of fact, unemotional management is essential. All coaxing and forcing should be discontinued. A rule of "nothing between meals" makes an ally of the natural force of hunger. Artificial incentives and rewards put too much emphasis on food and usually do not work well. Punishment likewise is usually ineffective. Even the question of no dessert must be handled carefully. Dessert is an integral part of a planned meal. Even a taste of most articles of food on the menu is sufficient to entitle youngsters to the delicacy or sweet. It is probably better that dessert should not be allowed to become a reward or its withholdance a punishment. A good rule is to put only a small quantity of each food on the plate, with the hope that the child will ask for more. This simple device may change the whole complexion of mealtime. Dawdling at meals is a source of frequent vexation to parents. One can simply remove the food calmly and unemotionally at the end of fifteen or twenty minutes with the comment that it is time to do something else. Sufficient hunger may accumulate so that there will be no difficulty at the next meal. Children use picking at their food and slowness in eating as a means to obtain attention more appropriately given at another time.

Every one in contact with the child should follow the same program. Even if the mother and father eat politely, all their good efforts may be nullified by some one else at the table commenting about his food dislikes or special aversions. We should never lose sight of the normal tendency to imitate. Nursery school teachers too often find parents' food dislikes reflected in children's tastes and attitudes. For example, Mabel, age 10, did not eat well. No physical disability was found. All the usual precautions and methods had been tried without effect. The parents had even set up a small table so that the children could eat by themselves, and yet Mabel's appetite was dangerously poor. Finally, the doctor suggested that he be invited to dinner so that he could observe the child. He sat at the table in a position where he could see what went on in the breakfast nook where the children ate. Imagine his surprise to see an elderly, fussy nurse and housekeeper urging and scolding Mabel and the little ones to eat everything on the plate. This serves only to illustrate that all the children's contacts are important. Many motives and forces may be hidden and require acumen and understanding to fathom. Expert diagnosis and advisory treatment are frequently available at the local Child Guidance Clinic, a service which can usually be obtained through the family doctor.

A child with feeding problems is an unhappy child. When properly managed, the milder difficulties will pass away. Any form of coercion is not only unnecessary but harmful. In view of all these considerations, it is clear that many food problems can be understood only in their relation to the child's whole pattern of life adjustment.

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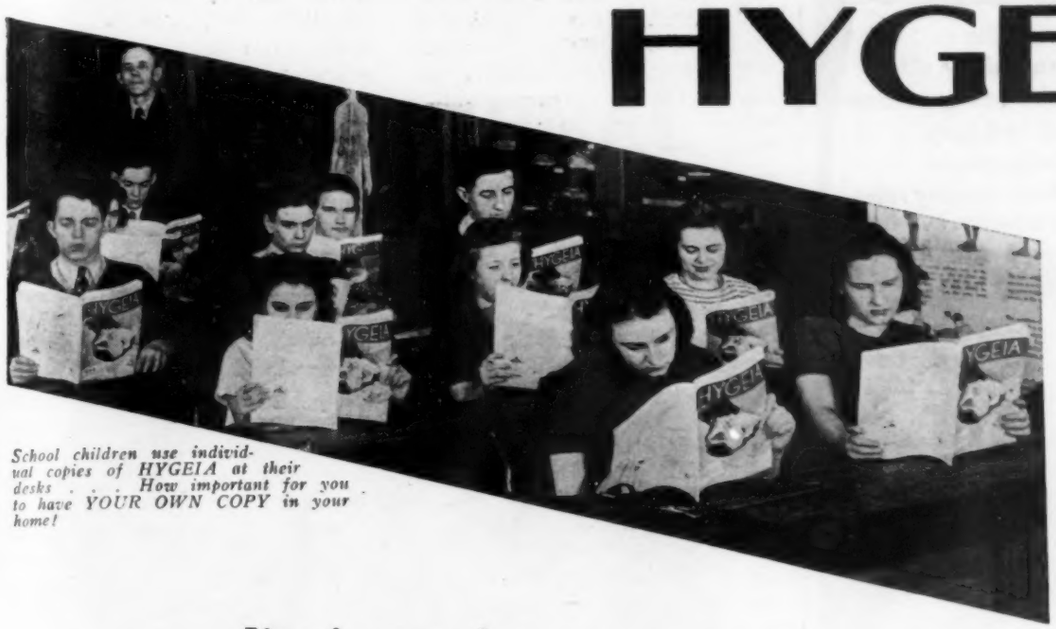

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The MENACE

"Leave maternity to the mothers and encourage fathers to be paternal!" urges this anonymous plea for a normal division of parental duties

WE HAVE BEEN MARRIED for fourteen years. During that time we have lived in four different communities. In each one there was a maternal father who menaced the peace and happiness of our friends by planting in the minds of otherwise contented wives and mothers the feeling that their Tom or Bill or Hugh was not properly interested in and attentive to the new, squirming baby in the basket.

The maternal father arrives home promptly after work. If he commutes he has his hat on and is sprinting for the train while his fellow workers are straightening their desks or their accounts. He shoves through the crowd waiting for the train in order to get a seat or standing room near the door, for he can be depended on at whatever cost to himself or others not to lose one precious moment with his infant. On arriving home, he speedily sheds hat and coat, scrubs his hands with approved child study technic, then, clucking gently, lifts the baby from the basket and takes over the cares of the mother until bedtime for the small creature approaches, and it is tenderly laid away for the night. He bathes and diapers, and holds the bottle. With his mouth full of pins he coos in ecstasy and calls on the world to

of the MATERNAL FATHER

marvel at his baby's growth. In the meantime the adoring mother sinks into a comfortable chair to relax, or tiptoes out of the room—leaving father and child together in gurgling bliss.

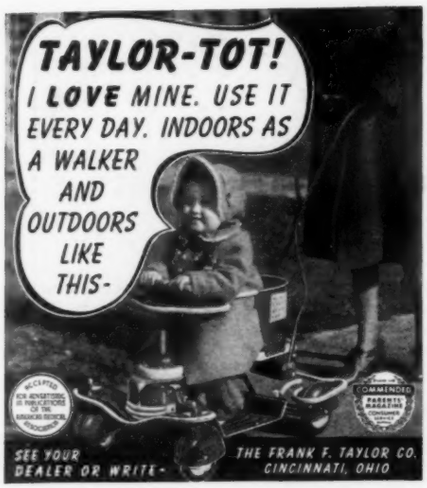
All this sounds very beautiful, just as the articles in the child study magazines and the lectures to the mother-to-be and the just-become-a-mother sections of the child study group would have it. The devoted family group growing up together—the father pinning on diapers and holding the bottle—form the never to be broken bond which in the eyes of experts can only be achieved through the physical care of the young child. A frequently overlooked flaw in this picture of parental relationships is the sometimes destructive effect which this idyllic picture seems to have on more usual—indeed we suspect more normal—family organization. We have no quarrel with the maternal father, or for that matter with the woman who refuses to accept maternity. The father who turns down the opportunity to hold his wiggling young one in the tub is missing a circus in his own home. We do not think much of his eye for fun. But we protest that neither should be glorified as representing a standard by which others should be judged.

The extreme need of many women today to urge and encourage the father to assume a more maternal role seems to be compensatory and not based on the role of the male in the development of the race. The failure they seem to feel when their men do not prove to be as maternal as they are themselves seems a needless grief. It appears to us that it is a symptom of the period which has naturally followed the emancipation of women, a period of flux in which there has been a loss of balance between the sexes which has not yet been completely stabilized. Might it be possible that as a result of their emancipation there has arisen in the minds of many women an inability to accept sexual differences either biologically or temperamentally, a desire to lessen the gaps of the past, so that they necessarily tend to interpret the role of man as nearly as possible as similar to that of woman? If this were so, a satisfactory paternal role, to many women, would have to conform as nearly as possible to her own maternal role.

Emancipation and participation in affairs outside the home cannot change the fact that the basic biologic role of the female of the species has been that of bearing, nurturing and suckling the young. It is true that the development of nursing bottles and the seemingly decreasing ability and desire of many modern mothers to nurse their young has removed the necessity for a mother to remain near her child during the early months of its life. It is certainly possible for the modern mother to leave her child to the care of a grandmother, a nurse or a maternal father from birth with reasonable safety. However the fact remains that feeding a newborn child is not as natural a function for the father as for the mother. Historically, the father has gone to the hunt or has worked to provide care and protection for his family, while the mother has cared for the children. Physiologically, the male organism has been better adapted to the more active life outside the home. By and large, in the world as we know it, the men we know would become tense and irritable under the daily needs and demands of the care of a house and children. It would seem to be easier for the mothers to go out into the world and take over the masculine jobs than for the average male to remain in the home in the role of homemaker. This being so, it would seem that we may accept as a natural arrangement for our culture that the women should care for the children and the male earn the wherewithal to support the family.

If it is the general pattern for the man to be away from the home all day in the office or the shop or wherever his work may take him, it will be the unusual male who on reaching home hungry and tired at the end of his day's work will have either the inclination or the vitality to plunge into the role of diaper changer and baby feeder. One father of our acquaintance, whose wife was concerned because he did not play with his son on his return home each day, said, "Ruth is upsetting herself because I do not get down on the floor and play with Jim when I get home in the evening. She thinks it means that I do not love Jim because at that time of day I prefer my pipe and paper. I have been working all day with people. I am tired and need to relax. To play with a child, however greatly I love him, is not relaxing to me. Why can't she see how happily we play together on Sundays or when I am home for a holiday? She frets unnecessarily."

Few fathers seem to be outwardly interested in the tiny baby. As one father expressed it, "The little thing is cute, but at present she sleeps all the time. She is so small to hold, and you can't do anything with her but hold her. When she is big enough to do something I shall be able to play with her and enjoy her, but now I feel awkward holding the little thing and trying to make foolish noises to please my wife." One mother we know wept because her husband would come into the house to greet her and pass the



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baby in his buggy on the porch. Within a year the same father had become an enthusiastic parent. It seems too bad that these mothers could not accept their husbands as normal men and realize the differences between the attitude of men and women toward tiny babies. How much more satisfactory their lives would be if they did not demand adoration of the child in the cradle, such as the maternal father in the block lavishes on his child, but could believe that the day will come when the child responds to the paternal father and the father to the child.

It appears to us that the role of the father can be rich indeed without being maternal. It is our observation that children apparently thrive most when they have both a masculine and feminine pattern in their parents. Both girls and boys seem to need a maternal, affectionate, supporting mother, and we have been impressed with the success of families in which the mother is complemented by a masculine, somewhat stricter though tolerant father, understanding but expecting more mature, and from his sons more masculine, conduct. We present this as a good pattern, although not as the only one which is successful. We do doubt the wisdom or necessity for two mothers in a family!

Why not encourage fathers to be themselves and to follow a more paternal pattern? Encourage them to romp and play and work with their children in their own way, developing paternal bonds and deepness of affection which may be just as lasting as that which the maternal father develops by pinning on diapers or spooning out mush. To us, it seems in many ways more wholesome. Perhaps it is wise to differentiate between the things which the child does with its father and with its mother. We would not go so far as to advocate that men should be men and women women, for there are values to be gained in borrowing from each other's traits. But certainly life is based fundamentally on the biologic function and development of male and female. It is to be doubted whether much is to be gained in an attempt to maternalize the fathers of the race. Might it not be better to encourage paternal fathers and leave maternity to the mothers?

The Human Eye

(*Continued from page 422*)

It has recently been shown by experimentation that if certain essential vitamins are withheld from the food of a mother pig at a certain period of gestation, the result will be a litter of pigs born without eyes. It has also been shown that the injection of certain organic substances, called *antigens*, into the circulation of a pregnant rabbit will result in arresting the development of eyes in the unborn rabbits. Moreover, this arrest in development may be made to correspond to the time when special structures of the eye are due to take on increased activity. For example, at a certain prenatal period the rabbit's crystalline lens is due to take on a very active growth, and if at this time the cells in the lens should suffer from altered nourishment or toxic injury, then the lens would fail to develop and the little rabbits would be born without their lenses—blind. In this way it is possible to produce many kinds of deficiencies in eye development—even the entire absence of the eyeballs.

We often see a similar situation in the human eye when a mother has suffered some nutritional disturbance of the germ cells of the eye at a critical period of its prenatal growth. Thus we can understand the large number of eyes found to be imperfectly formed at birth, as is shown in congenital cataract and other forms of arrested development.

An appreciation of the extension of these principles helps us to understand the occurrence of a malignant form of cancer known as glioma of the retina, which is frequently found inside the eyeballs of children. In this condition the germ cells, which are intended to go forward, fail to carry out the

normal changes, and when this occurs these cells simply adopt their original trend of indefinite and indeterminate multiplication. In other words, the germ cells run wild, and being unrestrained by the normal demand for differentiation they increase with amazing rapidity, invading the neighboring structures of the eye and brain. This form of cancerous growth always leads to the death of the child unless it is promptly and radically removed by surgical intervention.

ANATOMY OF THE HUMAN EYE

The adult human eye is approximately one inch in diameter and is nearly spherical in shape. Each eyeball is situated in the center of a cavity—called the *orbit* (or *orbital cavity*)—which is shaped like a pyramid or funnel, with its base directed toward the front and the point, or apex, of the pyramid directed backward toward the brain. The orbit can be compared to a little room with walls of ivory-like bone enclosing the cavity on every side except the front, which is left open so that the eye can look out as through an open window.

Back of the eyeball is a mass of fat, held in position by fibrous bands (*fascia*) interlacing in every direction. The eyeball rests in this cup-shaped pillow of fatty tissue and is thereby protected against the hazard of being knocked against the hard walls of bone surrounding the cavity. Lining this cushion of fat is a tough, but thin, fibrous membrane which is very smooth. It is called the capsule of Tenon, for the French physician who first described it. It is lubricated with a clear fluid in order to facilitate the rotation of the eyeball in every direction. Through this orbital fat run the blood vessels, nerves and muscles that lead to the eyeball. They all proceed from the small area around the peak of the pyramid-shaped cavity.

Between the orbital wall and the mass of fat is the *lachrymal gland*, which produces the tears that are discharged on the outer surface of the eyeball, supplying a continuous but gentle flow of weak salt solution over all the outside coverings of the globe. This gives a mild antiseptic action, together with adequate lubrication.

Covering the eyeball are various coats of tissue—called *tunics*—intended for different purposes. The *conjunctival tunic* is a delicate mucous membrane which lines the lids and covers the front part of the eyeball, furnishing lubrication. The second type, or *fibrous tunic*, consists of the *sclera* and *cornea*, which together constitute the framework of the eyeball. The cornea, which is a smooth, transparent portion of the eyeball, is located in front and occupies one sixth of the total area of the globe, while the sclera, or back part, is opaque and tough and comprises the remaining five sixths of the surface. The third group, or *vascular tunic*, is composed of the *choroid*, *iris* and *ciliary body*. The choroid is a thin membrane, containing a brown coloring matter, which lines the inner surface of the sclera. Its most important function is to absorb the light and carry blood to the interior of the eyeball. The iris stretches like a curtain across the front section of the eye and regulates the light passing through the pupil, which is the central opening through the iris. The iris is supplied with two muscles, one for contracting the pupil and the other for dilating it. The contracting muscle is supplied by branches of the third nerve from the brain, and the dilating muscle is supplied by branches of the sympathetic nerves. In addition to the iris, and associated with it, there is another muscle, the *ciliary muscle*, which is the focusing muscle of the eye, and this also is supplied by branches of the third nerve from the brain. The contracting muscle of the iris and the ciliary muscle work together and, both being supplied by the third nerve from the brain, produce at the same time two results—a contraction of the pupil and a focusing of the eye for near points. The choroid united with the iris and ciliary body constitute what is called the *uveal tract* from their resemblance to a grape hanging on its stem. If we remove the cornea and the sclera and leave the other internal structures of the eye hanging by the optic nerve, we have a dark-colored globular mass which much resembles a grape—hence its name, derived from the Latin word *uva*, meaning *a grape*. This whole area composed of the iris, choroid

(Continued on page 479)

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Health Aspects

EVEN TODAY, the school program and its schedules are the result largely of an inheritance of colonial and rural conditions surviving from the time when boys and girls went to school to get information in the three R's, while all other information and all vocational and physical training were received in the home, on the farm or in the shop. While there has been some definite effort to break away from this artificial setup in some of our cities and in a few of the larger towns, the condition still exists, unfortunately, in large parts of this country.

A child cannot profit from school unless he is present in school to receive the benefits of its program. Absence from school, therefore, is a serious handicap to the child; this is evidenced by statistical information indicating that the most prominent cause of school retardation is absence. The community loses also, because this absence and the resulting retardation increase the cost of public school education. A poorly arranged program, an unduly prolonged school year or too lengthy daily sessions increase the irritation and fatigue of school life. Fatigue is an extremely important factor in undernutrition, and it tends also to increase susceptibility to infection, which results ultimately in increased absence and retardation.

Any properly planned program of activities or schedules will include consideration of age, sex, grade, type of school, health and the environmental conditions such as economic status, type of community, intelligence and education of parents. It should consider, too, the life aims of the pupils themselves and the plans of parents for the training of their children.

The sequence of subjects in the schedule, the length of class periods, the interposition of recreational periods, the length of the school day and the length of the school year all are affected by these conditions. The basic consideration in efforts to bring about a reorganization of schedules that will result in a shorter day or in a shorter school year is "How is the time saved to be used?" However, we have progressed a long way from the situation which made it possible for the School Committee of the City of Boston in 1789 to decree:

"That the children of both sexes be admitted into the reading and writing Schools at the age of seven years; that they be allowed to continue in the reading and writing schools until the age of fourteen, the boys attending the year round, the girls from the 20th of April to the 20th of October following. Summer time hours: 7-11 a. m.—1:30-5:00 p. m. [7½ hours]; Winter time hours: 8-11 a. m.—1:30-4:30 p. m. [6 hours]. No school on Thursday or Saturday p. m."

It would be interesting to know the thought (if any) in the minds of the School Committee when it decided that boys must go to school twelve months in the year and girls only six. Why this distinction? Did the girls need less education, or were the boys more stupid?

It was not until the 1880's that the schools in Boston and vicinity abandoned two half holidays a week and school sessions on Saturday morning for the present schedule.

The tendency toward multiple divisions of the school year, so that instead of a child being in one room and one grade for a whole school year of ten months, he now has a school year divided into two and sometimes four periods with opportunity for progression several times during the school year instead of only one, increases the promotion

# of School Schedules

By **CHARLES H. KEENE**

rate and improves the mental attitudes of pupils, teachers and parents. The single term year had several drawbacks. A failure compelled a child to repeat the work of a whole year. It also tended to prevent the rapid advancement and education of the bright pupil, since skipping a whole year was difficult and risky.

What should be our attitude toward the two or more months between the close of school in June and the opening of school in September? This long vacation is a survival of rural agricultural conditions where there was no school for several months in the warmer part of the year because the labor of the child was valuable on the farm, and schools, especially for older children, were carried on mostly during the winter months. Compulsory extension of the length of the school year by legislation has been bitterly opposed by the rural populations.

What about the time wasted out of our present schedules? Some secondary schools have a daily auditorium program from thirty-five to fifty minutes each. Much of this time is not profitably used. It is impossible, without an enormous amount of expenditure of time on the part of pupils and teachers, to prepare worthwhile daily programs, and it is too expensive to hire, daily, worthwhile outside talent. A large part of this auditorium time might better be used for physical activities to build health and stamina.

In planning the length of the school day and the schedule for the day, at least four important factors must be considered: the actual time in the school day, the number of periods and the method of dividing the day, the content of the periods set up, and the opportunity offered during that time—and this is particularly essential in the lower grades—for play and other physical activities. We might add to these the health elements involved in the period beginning the morning session.

Kugelmass in his text, "Growing Superior Children," sets up the following needs regarding the length of night sleep: 4 to 6 years of age, thirteen hours, bedtime 7:30 p. m.; 6 to 8 years, twelve hours, bedtime 8:00 p. m.; 8 to 12 years, eleven hours, bedtime 8:30 p. m.; 12 to 14 years, ten hours, bedtime 9:00 p. m., and 14 to 16 years, nine hours, bedtime 10:00 p. m.

The school day should be so arranged as to permit the proper amount of sleep between one hour after dark in the evening and at least one hour preceding the opening of school in the morning. While it is impossible in the northern United States during the late spring and early fall months to adhere rigidly to this standard, no artificial hurdle should be established that makes this more difficult and school schedules should be arranged as far as possible to allow adequate sleep and to provide at least an hour for the young child to get up, wash, dress, eat breakfast in orderly leisure and get to school.

The length of the class period, the placing of recreational and physical activities between class periods and the sequence of topics listed through the day are extremely important health factors in the hygienic arrangement of the schedule. In grades and in schools where there is little or no departmentalization, our leading experts for a generation or more have advocated a procedure approximately as follows:

1. Opening exercises, followed by cleanliness and health habit inspection, should begin every school day.
2. Things which in themselves act least as a motive for accomplishment should come when the mind is freshest, probably immediately

Health Activities in School

Taking into consideration the physical, physiologic, and psychologic characteristics of the age of the child, the number of minutes per week allotted to the various activities of school should approximate the following. The time shown for recreational periods, physical education, health instruction and noon intermission should, in each case, be considered the minimum need.

Grade	I	II	III	IV	V	VI	VII	VIII	IX	X
Length of school day	1350	1350	1500	1500	1650	1650	1800	1800	1800	1800
Recess	150	150	150	150	150	75	75	75	75	
Physical education	180	180	180	180	180	180	180	180	180	180
Hygiene and physiology (health teaching)	60	60	60	60	60	60	60	60	60	45
Noon intermission **	375	375	375	375	375	375	375	375	375	150*

* Luncheon.

** Not included in the specified length of the school day.

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following the opening exercises. Abstract concepts of number, such as the usual arithmetic, fall into this class.

3. Subjects having human interest should follow. These are such subjects as geography, history, and civics (if properly taught).

4. The recess period should be placed at approximately the middle of the session. It should be at least fifteen minutes in length.

5. Memory work, such as spelling and formal grammar, should follow a relaxation period such as the morning recess or the noon intermission.

6. The period following the noon intermission is a highly efficient one if pupils have been properly fed and if the intermission is long enough for the child to get home, eat properly and get back to school without rush and hurry. (This takes at least one and one-fourth hours.) Here should come subjects requiring concentration of little less severity than abstract number work. These may be English composition, history and geography.

7. An afternoon as well as a morning recess is essential in all grades below the sixth.

8. Subjects containing large social elements should end the classroom program for the day. These may be art appreciation, music, current events, health discussions, dramatizations, educational motion pictures and excursions.

9. The various activities of physical education should be so spaced as to provide the maximum effect for relief of fatigue and for body building. Relaxation periods of from two to five minutes each should be placed between each two study or recitation periods. Windows should be opened, and vigorous physical activities given.

10. Recesses, weather permitting, should always be outdoors. The activities at this time should be so organized that every child has the desire and opportunity for safe, vigorous play suited to his age and strength.

11. Hot school lunches should be provided for all pupils, if they are unable easily to get home during the noon intermission. All children below the seventh grade should have opportunity for a lunch of milk or hot chocolate at morning recess. Whenever the financial condition of parents requires it, this midmorning lunch should be provided at public expense.

12. The length of the school day should be graded to suit the age and the mental and physical resistance of the child. The question for boards of education to decide is not "can the child get a certain amount of information in a given time?" but "is the length of the time decided on within the limits of the child's fatigue resistance?"

Where departmentalization has been introduced such a hygienic arrangement becomes impossible, since if one teacher is to teach arithmetic only, some pupils must have arithmetic during the last period, when properly they should have a much lighter and more recreational subject. The present tendency, fortunately, is away from departmentalization in grades below the seventh. In this particular, Kugelmass says:

"Children are wronged by enforced molding to the norms of mass measurement. Standardizing plastic youth into average patterns is detrimental physically to growing children, troublesome psychologically to perturbed parents, and false biologically to the national ideal. Children are individual, not average, in their mentality, in their bodybuild, in their organs and tissues."

While we have had kindergartens in some of our schools for many years, even yet in a high proportion of the schools no such facility for developing the child and accustoming him to the routine and restriction of the school exists. While the instruction and the activities of the kindergarten have definite health and psychologic values, this gradual breaking-in process also is important. It is doubtful, however, if more than one school year should be spent by any child in kindergarten. Some feel that one semester probably is all that is essential. Any assignment of longer than one year tends to lead to repetitive procedures and boredom, and distaste for school on the part of these young children may result. Not all kindergartens are so conducted as to be beneficial.

At what age should a child be admitted to the routine of the school schedule? In nearly all our communities the basis of admission is wholly unscientific. Children should be admitted to school only on physical, physiologic, and psychologic

standards, the determination of the status of the child being based on thorough individual examinations. At present, all he needs to be admitted to school is proof that he was born five or six years previously. This again is a heritage, coming down to us from the time when no means were available for accurately ascertaining qualifications.

What are some of the opportunities that should appear in the school schedules as a measure of fostering and improving physical and mental health? In addition to the facilities and time allotment for games, dancing, sports and various types of physical education activities, there should appear also, and these have great value even at an early age, debates and discussions on health topics; contests having in them health procedures as the basis of judgment; such things as health week, health exhibits, health posters and health projects relating school and community; contests and auditorium periods centered about health ideas or about the education and functioning of communities in play, recreation, physical education and health instruction program, and on the coordination of these efforts; and surveys of health and recreation conditions in school and community.

It is important, too, that the schedule set up should be flexible enough so that there will be opportunity for the classroom teacher or a special teacher to be present at the time of the physical and health examination of his or her pupils, and so that the teacher, in the lower grades at least, may have time set aside for the daily health inspection. The schedule should provide, too, opportunity for routine weighing and measuring of children. While we no longer believe fixedly in the idea that a child of certain age and height must weigh a certain amount, repeated weighing and measuring indicate rates of growth and therefore health status. Adequate periods must be set aside in consolidated and secondary schools for rest periods, not only for recreation and physical activities, but for the quiet rest period which is essential to the restoration of health and mental ease to some pupils. The physical education program must be adjusted to the age and needs of the children participating in it. The physical environment must be sanitary and healthful, and the teacher giving instruction should be emotionally balanced and mentally and physically sound.

Every teacher should ask herself the question: "How can my teaching improve the life of my pupils? What can I do to help my pupils find solution to the problems of life they face in this community? What are the problems that boys and girls in this community have to face?" The answer to the last question is the starting point in the program of teacher education, pupil development, and community improvement. The first of the seven persistent problems set up by the Committee on Community Organization for Health Education of the American Public Health Association is maintaining mental, emotional, and physical health.

The schedule is the detailed application of the curricula in the school program. In building the program, or a curriculum, several applications are recognized: the child experience application emphasizing the importance of experience; the creative values application, which might be called experiences which the child himself has designed; the advanced or frontier application which obviously results in sharp divergence from present practices and the neglect of certain older practices which ordinarily we find in a school program. An effort must also be made to develop and secure social and moral outlets that will be beneficial to the child and to the society in which he may be placed. It is necessary to emphasize the necessity of having definite service in curriculum and schedule building from a specialist in mental hygiene.

A SYNONYM FOR NICOTINIC ACID

A synonym for nicotinic acid, the antipellagra factor in vitamin B_2, has been selected by a committee named for that purpose by the Food and Nutrition Board of the National Research Council, it is reported in *The Journal of the American Medical Association*. "Niacin" has been selected for nicotinic acid and "niacin amide" for nicotinic acid amide. The Council on Foods and Nutrition of the American Medical Association announces it has approved these synonyms for preparations that come within its scope.

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BOOKS ON HEALTH

Dancing as Art and Exercise

Invitation to Dance, by Walter Terry. Cloth. Price, $2.00. Pp. 180. New York: A. S. Barnes and Company, 1942.

Walk Your Way to Better Dancing, by Lawrence Hostetler. Cloth. Price, $2.00. Pp. 263. New York: A. S. Barnes and Company, 1942.

Walter Terry, dance critic of the New York *Herald Tribune* and author of "Invitation to Dance," has had the personal experience of having studied all types of dancing with many of America's leading teachers. He writes not only from actual experience but from the view point of a dance critic. He relates in an entertaining style the growth of dancing in America and its influence on the theater and college. In fact he considers it a form of recreation for all. He makes a plea for an American Ballet for Americans. Dancers the world over dance for exactly the same reasons and have had the same reasons since the dawn of history. He divides the reasons into four parts: physical exuberance, mimetic communication, sex impulse and religious ritual. In stating these sources he tries to show that dancing is not a fad, but that the urge to dance is as enduring and unchanging as the physical, mental and emotional and spiritual attributes of the human being.

Every other nation has a dance art that emerged from its folk forms. Our American dance art could never emerge from a single dance idiom because so many races are represented in the makeup of America. Mr. Terry feels that for our own pride we must bequeath to the world an American dance art as well as American music, painting and literature.

He follows dancing through the years by giving each American dance artist credit for her or his contribution to the American dance, starting with Isadora Duncan, Ruth St. Denis (whom he calls the mother of American dance), Martha Graham, Doris Humphrey, Charles Weidman, Agnes De Mille, Winslow Fitz-simmons and many others. He has great hopes for these American moderns in dance.

Mr. Terry finds the type of stage dancing—tap, ballroom, acrobatic, etc.—seen in our night clubs and better restaurants on the upgrade. He feels this is due to the fact that the public is becoming more educated in the appreciation of good dancing. He finds Hollywood entirely lacking in the art of photographing dancing.

He also finds dance courses in the elementary schools and colleges varied and inadequate. The teachers lack good training. He gives Phoebe Barr, with whom he studied at the University of North Carolina, much credit for fine work and understanding of dancing as it should be taught in the colleges to appeal to young men and women. Her success at the University of North Carolina made the board of trustees sit up and take notice; they decided to give credit for the course. So far, few educators have recognized the educative force of the dance and therefore do not allow money to be spent on the dance department. "Surely the oldest art in the world must be given a place in our scheme for education." Mr. Terry is a true lover of dancing as evidenced by the last paragraph, in which he says: "Dancing makes living easier, for dancing is fun and it is fun to watch dancing. If you like life, you'll like to dance."

There is a spontaneity and enthusiasm about Terry's writing and a fine understanding of the subject which makes the book enjoyable even to a person not especially interested in dancing.

Mr. Hostetler has devised a simple system of teaching the different ballroom dances used today, based on his wide experience of teaching large numbers of pupils in various universities and schools. Each type of dance is given a "vocabulary" of about five or six steps or figures. His five main points for instruction include:

1. Body control (exercises for muscles and joints to "put the body in tune").
2. Dance-walk (walking based on good body mechanics).
3. Moving with partner (doing the dance-walk forward and back with partner).
4. Leading and following (depends on the mastery of 1, 2 and 3).
5. Steps and combinations in all rhythms.

Modern ballroom dancing has its own definite technic. It is more than simply moving around the floor with a partner. Many persons dance without ever having had lessons, but their dancing appears to the experienced eye just as bad as "playing by ear" sounds to a fine musician. Good style in ballroom dancing can be accomplished only by lessons and practice. This type of dancing comes under the same class of exercises as walking and must be done in good posture to be of any benefit whatsoever. "To walk well is to dance well."

MERRIEL ABBOTT.

Conquest of Bacteria: From Salvarsan to Sulfapyridine

By F. Sherwood Taylor. Foreword by Henry Sigerist. Cloth. Price, $2.00. Pp. 175. New York: Alliance Book Corporation, 1942.

Because of the current interest being shown in the sulfonamide drugs, commonly referred to as "sulfa drugs," any book which deals with chemotherapy will evoke a response from interested readers. The present book is not dissimilar to others which have been written for lay readers on the subject of the control of infections in that it presents its contents in an interesting style. However, it is unfortunate that some of the errors in typesetting escaped the attention of the proofreaders before the book went to press. Such errors are always a source of annoyance to the reader.

"Conquest of Bacteria" is provocative, but it does not present the latest information on chemotherapy. For example, the author offers fairly attractive pictures of sulf-

anilamide and sulfapyridine but merely mentions sulfathiazole. The newer agents as sulfadiazine and sulfaguanidine are missing entirely from the pages. This is unfortunate as the reader may be left with the impression that sulfanilamide and sulfapyridine are the most, or the only, effective agents in the treatment of bacterial infections. Further, in one instance the author implies that these drugs may be given only by mouth. This, of course, is not true as there are now available soluble preparations which can be administered by injection. Perhaps the majority of readers will not object to the author resorting to redundancy to achieve greater dramatic effects, but they probably will resent any statements which are misleading in their implications, such as: "Sulfur-containing foods such as eggs and onions have to be avoided" (this pertains to the cyanosis observed in the use of sulfonamides); "It is thought that no one has ever been killed by a single dose of quinine, however enormous."

In a chapter entitled "The Need for Research," the author takes to task the present systems of teaching and research at hospitals and universities and implies that other duties interfere with research. Further he states: "Universities have chemical departments where such research could be carried on, but in the majority of cases there is no cooperation between the chemical workers and biologists, let alone medical men. It is very rare for the university research worker to take up the study of drugs as he has no certain means of securing the cooperation of pathologists and practicing medicine men." The author should familiarize himself with current activities at American educational and hospital centers.

AUSTIN E. SMITH, M.D.

Your Personality—Introvert or Extravert?

By Virginia Chase. Cloth. Price, $2.50. New York: The Macmillan Company, 1941.

Introvert and extravert are expressions no longer frequently used by psychiatrists or psychologists, but ten years ago they were very much in vogue to express the difference between the person who broods, thinks about his problems, or has a fantastic inner life—the introvert, and the person who pre-

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sents a maximum contrast to him—the extravert, who bubbles over, senses every mood of the person he is talking to and lives most of his life in close contact with his external environment. During the vogue of extraversion and introversion, as psychologically typed, much stress was placed on builds, which were alleged to portray these types. A tall, slender person was more often found to be an introvert, while the jolly, Santa Claus-like fellow was an extravert. The present book omits the current interests in the psychologic concepts lying behind these personality descriptions, although the psychologic pairing and the physical analogs which are emphasized might be considered generally to hold true. The psychologist is more interested today in trying to determine the reasons which cause people to be seclusive or to make contacts with others, and scientific psychology has made great progress in going beyond the superficial details so that they no longer are in themselves significant. Another objection to the present work lies in the fact that bodily types frequently do not have the corresponding personalities and the vast majority of well adjusted people have both introversive and extraversive tendencies, which change from time to time with age and changing emotional and environmental conditions. While the book is interestingly written and does present the contrast between the extremes, the blending of the two types and their consequent diagnostic absence are not adequately discussed or apparently understood by the author. She does cite a number of cases which illustrate points of division between the two types, but there is little in the book which would advance one far in the idea expressed on the outside cover, namely, "This book is intended to help you understand your neighbor and yourself." Certainly the various discussions on the introvert do not help in one's daily contact with such persons, for contacts with deep-seated introverts must be delicately handled, and even the skilled psychiatrist has trouble breaking down the mental wall surrounding them. On the other hand, the extravert in the typical condition which this author presents does not require much understanding for an adjustment; he adjusts well spontaneously. A number of rules are given and a number of statements made on how the types judge and misjudge each other. There is a chapter on everyday dealings with the two types, and a chapter on the relationships of these types in marriage. This reviewer has made a study of social-psychologic marriage problems for a long time without being able to find a rule to determine whether introverts or extraverts make better mates and is inclined to believe that when two persons are about to get married, they will still do so on the basis of their emotions.

LOWELL S. SELLING, M.D.

Marriage for Moderns

By Henry A. Bowman. Cloth. Price, $3.75. Pp. 493. New York: Whittlesey House, 1942.

This is the most extensive treatise of advice for those recently married or about to be married that has yet been made available. The preface says that the authors do not purport to answer every question, yet there are few questions which could possibly occur to intelligent people in search of information which are not considered in this book. Marriage is considered from every possible point of view, including sociologic, physical, psychologic and biologic aspects. Thus there are chapters which consider the decision to be married, the choice of a mate, the technic of courtship, engagement, wedding and honeymoon, matters of personality adjustments, reproduction, sterility and divorce. There is an excellent glossary of technical terms, a good bibliography and an index. The book is one to be recommended to all who are interested.

M. F.

NOTICE

Books reviewed in this section should be ordered from booksellers or direct from the publishers. They may not be secured through HYGEIA or the American Medical Association, unless published by this organization. The following list contains the complete addresses where the publishers mentioned in these reviews may be reached:

Alliance Book Corporation, 212 Fifth Avenue, New York City.

A. S. Barnes & Company, 67 West 44th Street, New York City.

The Macmillan Company, 60 Fifth Avenue, New York City.

Whittlesey House, McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York City.

The Human Eye

(Continued from page 471)

and ciliary body constitutes the uveal tract. The principal nourishment of the eye hinges on this grapelike group of structures.

The *nerve tunic* comprises the retina, which rests on the choroid. The retina is the innermost lining or coat of the globe. It is in reality an expansion of the optic nerve, which comes from the brain and enters the eyeball from the rear. The optic nerve is essentially a portion of the brain pushed through an opening in the bony framework of the skull. After the optic nerve enters the eyeball it spreads out like an umbrella, lining the inner surface of the eyeball. The function of the optic nerve, an extension of the retina, is to carry impressions of images to the brain exactly as an electric wire carries its messages to and from the power house.

In addition to the tunics just described, the eyeball contains also four refracting media, structures through which the light must pass to undergo refraction, or the bending of light waves: (1) the *cornea,* already mentioned, which serves the double purpose of acting as a supporting membrane and also as a refracting medium; (2) the *aqueous humor,* a fluid which fills the anterior chamber of the globe with salt water, furnishes nourishment and lubrication and helps to give form to the eyeball; (3) the *crystalline lens* (so called because it is normally clear like a crystal), which is a double convex lens situated back of the pupil, a round opening through the center of the iris; (4) the *vitreous,* a transparent, jelly-like substance situated back of the lens and occupying four fifths of the globe, which gives form to the eyeballs and transmits light. These structures vary in density, and on this fact depends their ability to produce the bending of the rays of light in such a way as to bring these rays to a focus on the retina.

Thus it is that the act of vision is begun in the eye and completed in the brain. Both are necessary to vision, and any break in the chain would mar the picture or completely nullify the visual effort.

Attached to the outside of each eyeball there are six muscles (*superior rectus, inferior rectus, external rectus, internal rectus, superior oblique, inferior oblique*) for regulating its movements which enable the eyeball to assume thousands of positions each day. All these muscles are supplied with fibers from the third, fourth and sixth cranial nerves; hence the brain controls, through its nerves, all the movements of the eyeballs. Outside each eyeball is a small tear gland which produces tears to keep the eyes washed, moist and lubricated.

The eyebrows and eyelids are additional accessory parts of the eye. The eyebrows, situated on the ridge of the orbit, are covered with thick skin and fringed with small short hairs. Like an awning, they protect the eyes from light too brilliant, from intense heat or cold and often from the severe shock of injuries caused by balls, rocks, or other objects. The eyelids are movable shades which are drawn over the eyes in sleep, which shield them from foreign bodies when awake and which spread the lubricating fluids continuously over the eyeballs, thus showing the beneficent foresight of nature.

"BLOODY FLUX"

Sulfaguanidine, one of the sulfanilamide drugs, has proved to be quickly effective and safe for the treatment in the home, office and hospital of patients suffering from a form of diarrhea known as "bloody flux," G. M. Lyan, T. G. Folsom, W. J. Parsons and Irma Sprouse, Huntington, W. Va., report in a recent issue of the *West Virginia Medical Journal.* Their report is based on experience with 259 patients. They say that sulfaguanidine is preferred to sulfathiazole because of its freedom from toxic effects and that its greater safety is not to be overlooked.

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Medical News

OF THE MONTH

A. M. A. Participation in the War Effort

"Every officer, council, bureau and department of the American Medical Association, indeed the entire personnel of the headquarters office, are participating in the war effort of the nation," the Board of Trustees of the Association declares in the annual report, published in a recent issue of *The Journal* of the Association and to be presented to the House of Delegates at the Association's annual session in Atlantic City in June.

The annual report of the Secretary of the Association shows that the official membership list as of April 1, 1942, included the names of 120,701 physicians as compared with 118,441 on the corresponding date in 1941. The official Fellowship roster carried 73,747 names on April 1, 1942, as compared with 72,504 on the same date in 1941.

Motherhood During Bombing of Pearl Harbor

The courage of pregnant women during the bombing of Pearl Harbor on Dec. 7, 1941, shows that the quality of American womanhood is such as to be able to face a real crisis with remarkable fortitude, the same that was displayed by the pioneer women of this country, O. Lee Schattenburg, Honolulu, declared in a recent issue of *The Journal of the American Medical Association*, in an article describing the experiences of managing a community-wide obstetric program in Hawaii before, during and after a sudden major disaster.

Of particular significance was the following statement by Dr. Schattenburg: "The question arose what to do with the early pregnant woman whose husband had suddenly been killed. There were numerous instances of women who had been severely shocked by the sudden loss of the husband in the unexpected catastrophe, added to which was the discovery of an early pregnancy. It was gratifying to note the renewed courage of each of these women when she was advised to carry through with her pregnancy for two logical reasons: (1) she would be able to have a living memory of her husband who had died so gallantly and (2) she would be able to make a real contribution to the national program by bearing a child. I saw no hint of refusal to carry through after these facts had been carefully explained."

Venereal Disease and Prostitution

Any local, municipal system that encourages the giving of certificates to prostitutes that they are free from the venereal diseases "trifles not only with the health of its civilian population but also with that of the Army and Navy," *The Journal of the American Medical Association* warns in an editorial on "The Venereal Disease Problem in War." According to available scientific evidence, such certification is worthless.

Consumers Should Demand Enriched Bread

Consumers who buy white bread should demand enriched bread, *The Journal of the American Medical Association* declared in an editorial in a recent issue.

"For some two years," the editorial says, "medical and nutritional scientists have discussed the nutritional significance of bread, lawyers have argued about regulations pertaining to flour and bread, advertising copywriters have written about the new enriched bread. Consumers apparently have continued to pay scant attention to the important changes that have been made recently in this basic food. The average American consumes each day about 6¼ ounces of white flour in various forms; to a large extent flour is used as white bread and other bakery products. This amount of flour will provide about one fourth of the average daily caloric requirement. The amount of white pan bakers' bread consumed daily is sufficient to provide each man, woman and child in the country with 70 Gm. of bread each day, or approximately two and one-third slices weighing 30 Gm. each. Nearly all this bread is consumed without special regard to its nutritional value. . . ."

Resuscitation

In advanced asphyxia, after breathing has stopped, rhythmic inflation and suction of oxygen or oxygen-carbon dioxide (by means of an apparatus) at safe pressures is definitely superior to manual artificial respiration or rhythmic inflation (with an apparatus which blows air into the lungs without withdrawing it), George L. Birnbaum and Samuel A. Thompson, New York, declare in *The Journal of the American Medical Association* in the first of a series of papers on their investigations of various methods of resuscitation.

Parrot Fever from Pigeons

The case of a policeman with psittacosis (parrot fever), whose only known contact with birds was with common pigeons, was recently reported in *The Journal of the American Medical Association* by Henry Alicandri, Brooklyn. He points out that the disease, which is highly communicable, has been transmitted to man by parrots, parakeets, love birds and rarer birds of the parrot family and that this isolated case warrants closer investigations of pigeons as a possible source of infection.

Boils and Diabetes

The prevailing impression among both physicians and laymen that boils and carbuncles are commonly associated with diabetes and that the diabetic are predisposed or more likely to suffer from these pyogenic (pus producing) skin infections than are the nondiabetic is not supported by clinical investigation, John R. Williams, Rochester, N. Y., reported recently.